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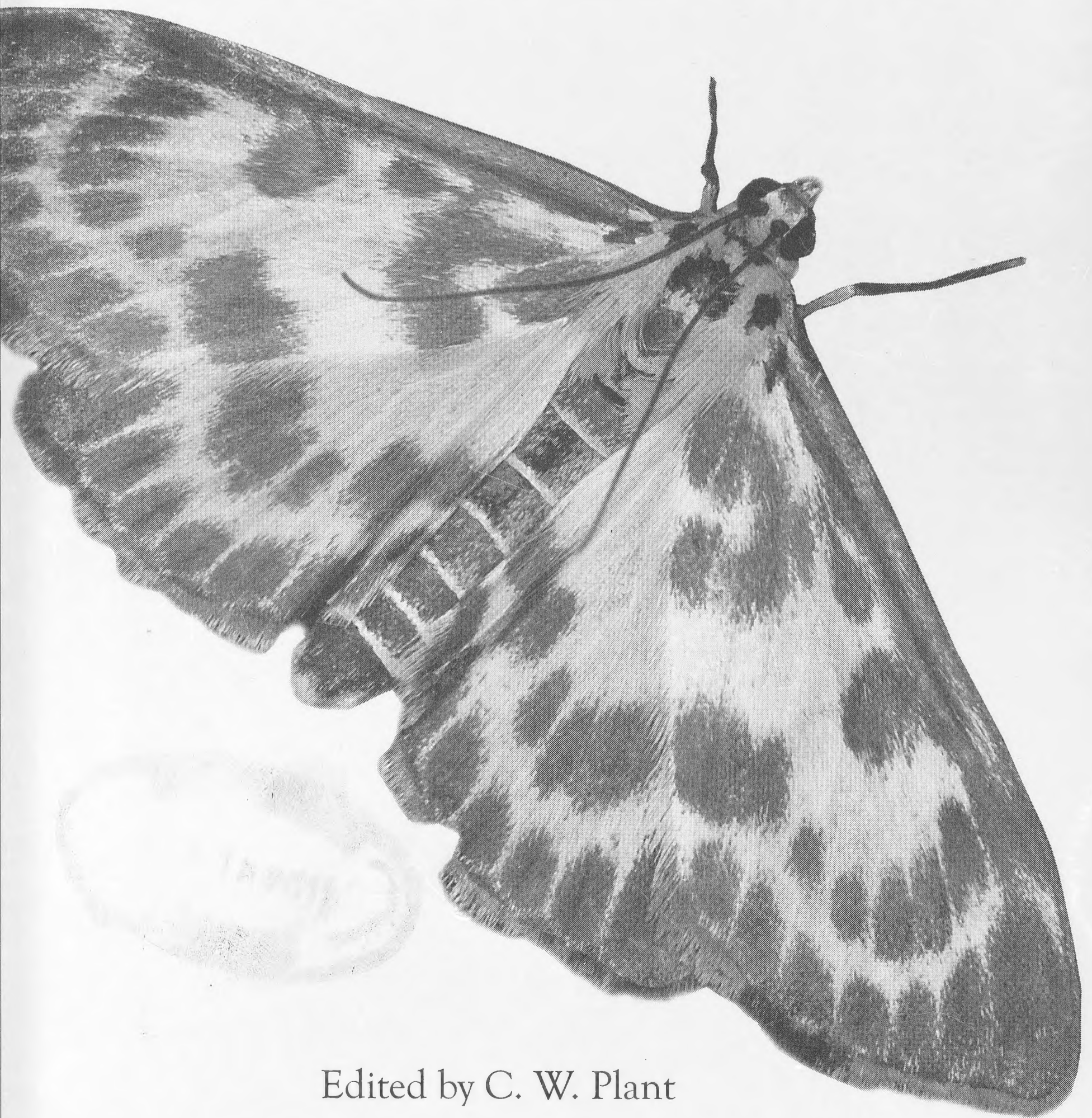
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and Journal of Variation

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Edited by C. W. Plant

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**SOUTHERN GRASS EMERALD *CHLORISSA CLORARIA* (HÜBNER, [1813]) (LEP.: GEOMETRIDAE) NEW TO THE CHANNEL ISLANDS**

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**Abstract**

The discovery of Southern Grass Emerald *Chlorissa cloraria* (Hübner, [1813]) (Lep.: Geometridae) new to the Channel Islands (VC 113) is reported. Examples from Guernsey and Jersey have been identified and it is likely that all historical records of Small Grass Emerald *Chlorissa viridata* (Linnaeus, 1758) from the Channel Islands are referable to *C. cloraria*. Notes on rearing and photographs of larvae of both species of *Chlorissa* are included.

**Keywords:** Channel Islands, Lepidoptera, *Chlorissa cloraria*.

**Introduction**

In his early Lepidoptera forays on Guernsey PDMC found two examples of what he identified as Small Grass Emerald *Chlorissa viridata* (L.) on the cliffs of the south coast of the island. On hearing this PHS commented how surprised he was that the species should occur in two contrastingly different habitats; on the heathlands of Dorset and the New Forest, Small Grass Emerald is usually found in extensive damp or boggy areas, whilst the emeralds on the Channel Islands were amongst Gorse (*Ulex europaeus*) on the arid cliff tops. He considered there was a chance that these could be the southern European *Chlorissa cloraria* (Hübner). Subsequent research over the past two years has enabled the authors to conclude that this is indeed the case, based on descriptions and figures in Hausmann (2001), and we are grateful to Dr Axel Hausmann for confirming the identity of *C. cloraria* from the Channel Islands.

***Chlorissa cloraria* (Hübner, [1813])**

(Plates 1 & 3, Fig. 1)

*Geometra cloraria* Hübner, [1813], *Samml. Eur. Schmett.* 5, pl. 68, fig. 352. Type lost.

**Description of imago (Plate 1)**

Based on Guernsey specimens. Wingspan 17-20 mm. Head with vertex deep green, creamy white anteriorly, frons brown or orange-brown; antenna creamy white above, brownish below; labial palpus short, brownish or pale brownish, dirty whitish below. Thorax and tegulae deep green. Forewing deep green, costa usually noticeably darker with dark greyish or blackish scales, sometimes sandy pale brown with admixture of a few darker greyish or blackish scales; antemedian line white, usually faint, not extending to costa; postmedian line white, slightly dentate and somewhat or moderately convex towards costa; cilia deep green, outer half white. Hindwing deep green, postmedian line convex, with distinct zigzag towards dorsum, cilia as forewing. Genitalia: male genitalia are shown in Fig. 1; female genitalia are not illustrated.



### **Taxonomic position**

*Chlorissa cloraria* is placed after *Chlorissa viridata* in Karsholt & Razowski (1996). It is therefore suggested that it is given the number 1670a in the British checklist (Bradley, 2000). The vernacular name Southern Grass Emerald is suggested as, of the two *Chlorissa* species, *C. cloraria* has the more southerly distribution across Europe.

### **Comparison with Small Grass Emerald**

Southern Grass Emerald and Small Grass Emerald are sister species and show very close affinity to one another. Hausmann (2001) considers differences between the species in considerable detail; they are distinct, but characteristic differences are not wholly consistent across their geographic ranges, and there is evidence for hybridization in some parts of southern Europe. In this paper we list only differences we have found to help distinguish Small Grass Emerald in England from Southern Grass Emerald in the Channel Islands.

The most apparent difference is in the colour of the wings, which are deep green in Southern, and bright green, sometimes turquoise, in Small. Needless to say, once the green has faded, this character is largely lost. The shape of the postmedian line and the colour of the leading edge of the costa show fairly consistent differences, but these are less obvious between females of the species. Worn examples are hard to determine, especially when scales on the costa are missing. Male genitalia show consistent differences (Figs 1 & 2), but female genitalia appear almost indistinguishable. Table 1 highlights the main characters which may be helpful in determining the species, including differences in the adult wing shape and larvae, which are not considered in Hausmann (2001). The main differences in wing shape and pattern are indicated in Plate 2, which is a composite image from photographs of the two emerald species at rest with lines added to point to differences.

### **Distribution and records from Channel Islands**

According to Hausmann (2001), Southern Grass Emerald is a European species found only to the west of the Ural Mountains. It is widely distributed across the southern half of Europe; it occurs in southern France, Italy, Greece, Yugoslavia, Romania and as far east as Georgia. However, north of a line from northern Spain through central Germany and central Poland to the southern Urals, the moth appears to occur rather rarely. Its known distribution in France and the Channel Islands is shown in Fig. 3.

The moth has been recorded (as Small Grass Emerald) on Guernsey since 1862 when it was included in a list of species found locally (Ansted & Latham, 1862). In 1873 several were 'beaten out of the furze-bushes on the Guernsey cliffs' (Luff, 1874) and in 1892, also on Guernsey, a visitor from the Isle of Wight noted that "Our best day's sport was on Midsummer Day when we all filled our boxes.



Amongst the other species, I was glad to be able to secure about 30 *Nemoria viridata*, which were knocked out among the furze, and were in the finest condition" (Hodges, 1892). The Guernsey population was specifically mentioned by South in *The Moths of the British Isles* where he comments that ' . . . in Guernsey the species occurred exclusively among furze on cliffs by the sea, and chiefly where the plant is cut down from time to time' (South, 1961). Apart from these early published records there are just two more recent from Guernsey – once when the moth was taken in a Robinson trap (Austin, 2004) and once in a Rothamsted trap (Austin, 2007).

On Jersey, the moth has been recorded since 1903 when a single specimen was taken on 27 June (Coney, 1904). It was next recorded in the late 1920s when specimens were added to the Museum's collection (Halliwell, 1929) and by the late 1930s it was noted that 'It is now well established and can be found all along the north of the island in June and July. I have also taken it at Ouaisné [*sic*]' (Halliwell, 1937). In early June 1965 three specimens were taken by a visitor at St. Ouen's Bay (Wurzell, 1966). Currently it is considered to be 'fairly common' on Jersey (Long, 2010).

All specimens we have examined from the Channel Islands (Table 2) are referable to Southern Grass Emerald. The moth has clearly been resident there for a very long time, and its populations on Guernsey and Jersey appear to be geographically well isolated from other known populations further south in Europe.

It is possible that populations exist along the north coast of France, but none is known. Of the parts of the French mainland nearest to the Channel Islands, *Chlorissa cloraria* has never been recorded in Normandy (Lainé, 1977; Quinette *et al*, 2004) or the Côtes d'Armor region of northern Brittany (Cosson, 2010). The moth is not known to occur on the French Channel Island of Chausey (Quinette & Lepertel, 2000). However, on 7 June 2003, a single specimen was taken at mercury-vapour light at a point close to the sea and a freshwater marsh on the island of Belle-Île-en-Mer which is situated off the coast of Morbihan, the southern part of Brittany (Drouet, 2010, pers. comm.). At approximately 140 miles from Jersey, this is the closest occurrence of the moth to those on the Channel Islands we have been able to uncover. It is interesting to reflect that its finding was also on an island, though it is difficult to assign any significance to this without further research.

We have also examined specimens of *Chlorissa* from Cornwall, Devon, Dorset and Hampshire (Table 3) and can confirm that all are Small Grass Emerald. However, it must be worth adding Southern Grass Emerald to a list of southern European species that may be present in Britain. In Cornwall, for example, where there are plenty of coastal locations not dissimilar to those of the cliffs on Guernsey, we have checked only one specimen from Kynance Cove on The Lizard. It would be worth examining any examples of *Chlorissa* which have been



**Table 1.** Differences between Southern Grass Emerald and Small Grass Emerald

<b>SOUTHERN GRASS EMERALD</b> <i>Chlorissa cloraria</i> (Plate 2 (left) & Fig. 1)	<b>SMALL GRASS EMERALD</b> <i>Chlorissa viridata</i> (Plate 2 (right) & Fig. 2)
<b><i>Wing colour</i></b> Deep green. Costa of forewing variable from sandy pale brown with scattered black and grey scales to entirely greyish black	<b><i>Wing colour</i></b> Bright green, sometimes turquoise. Costa variable from entirely white to sandy pale brown mixed with pale greyish brown scales
<b><i>Wing pattern</i></b> Postmedian lines on forewing and hindwing moderately convex; in hindwing distinct zigzag towards dorsum.	<b><i>Wing pattern</i></b> Postmedian lines on forewing and hindwing usually straight in male, sometimes slightly convex in female; female hindwing often shows slight zigzag towards dorsum
<b><i>Wing shape</i></b> Forewing broader than in Small Grass Emerald; costa with moderate arch at base before wing articulation	<b><i>Wing shape</i></b> Forewing narrower and usually more pointed than in Southern Grass Emerald; costa with at most a slight curve at base before wing articulation
<b><i>Male genitalia</i></b> Costal process short and broad; aedeagus with terminal sclerotization of vesica usually adjacent to patch of microcornuti, though sometimes separated	<b><i>Male genitalia</i></b> Costal process narrow and tapered strongly to point; aedeagus with terminal sclerotization of vesica usually well separated from patch of microcornuti by hyaline area of vesica
<b><i>Final instar larva</i></b> Larva yellowish green with dorsal line reddish, scarcely narrowing in middle of each segment; cleft head, thoracic points and thoracic legs weakly marked with pale brownish pink only at extremities	<b><i>Final instar larva</i></b> Larva mid green with dorsal line purplish, narrower and less defined in middle of most segments; cleft head, thoracic points and thoracic legs brownish pink

recorded well away from damp or boggy lowland heathland, and those taken at times of significant dispersive activity of other Lepidoptera. The known distribution of Small Grass Emerald in France and southern England is shown in Fig. 4.

### Habitat preferences and conservation

Across central Europe, Southern Grass Emerald inhabits a range of habitats including heathland, limestone grassland and salt-steppes, whilst in southern Europe it is found in open areas of dry sparsely-vegetated grassland and rocky slopes, where the moth tends to be montane. It is not noted as a coastal species.



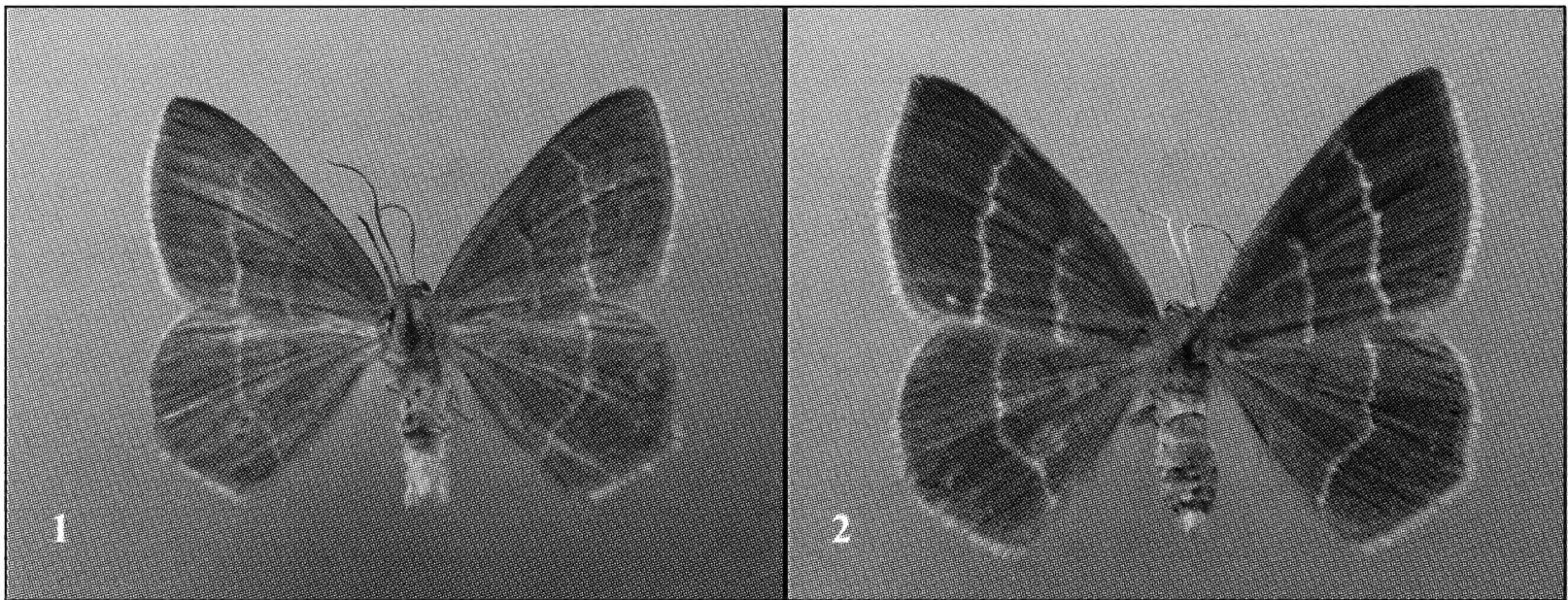


Plate 1. Southern Grass Emerald *Chlorissa cloraria* (Sterling coll.) 1. male; 2. female.

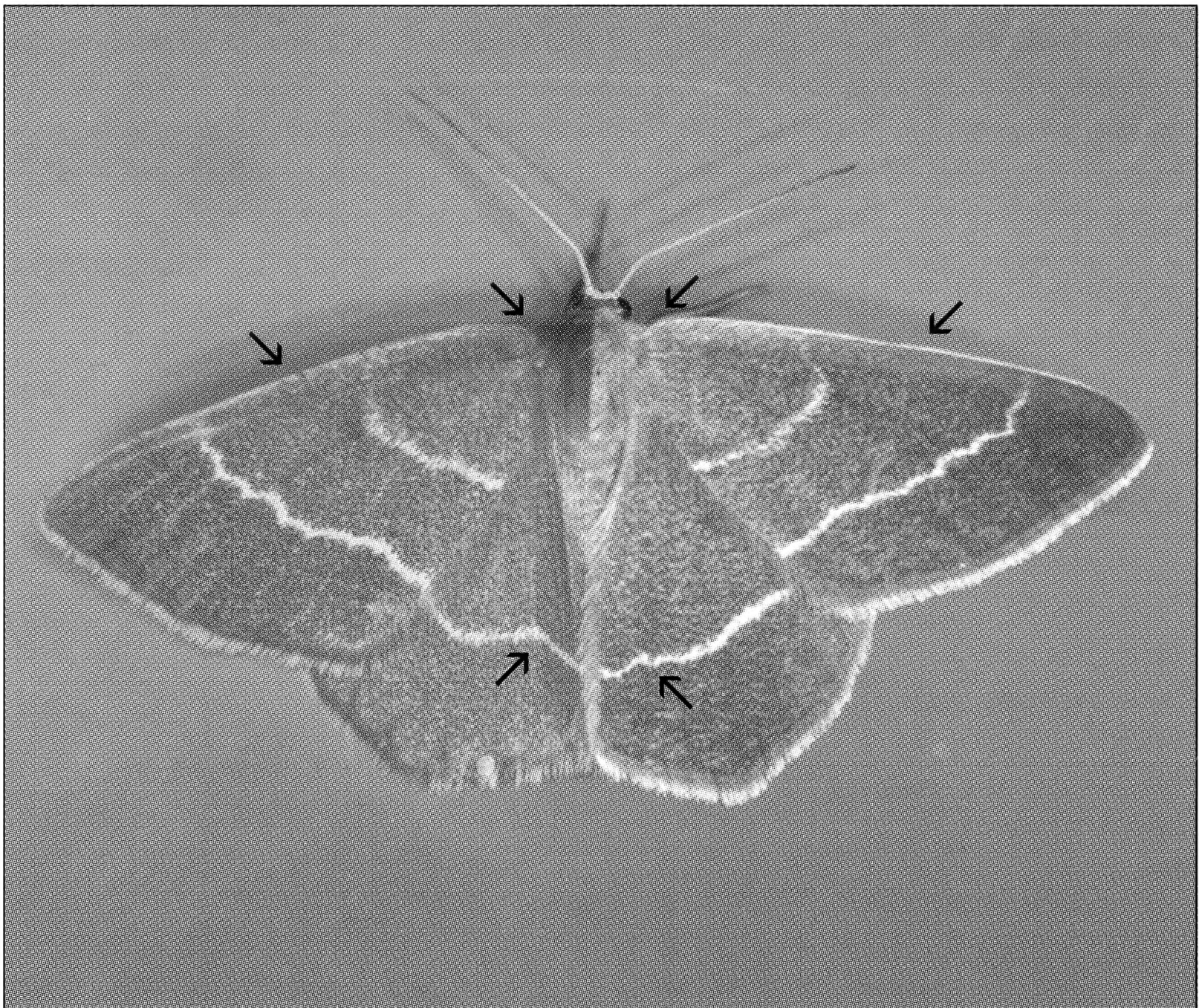


Plate 2. Enlarged compound image showing key differences between Southern Grass Emerald (left half) and Small Grass Emerald (right half)



**Table 2.** Southern Grass Emerald: material examined

Location	Date	Recorder	Sex	PS*
Jersey	28 June 1928	A.C. Halliwell	female	
Jersey	June 1929	A.C. Halliwell	female	
Jersey, La Pulente	26 June 1961	R. Dobson	male	(PS 986)
Jersey, Portelet	21 May 1961	R. Long	male	(PS 985)
Jersey, Le Ouaisné	30 June 1963	R. Long	male	
Guernsey, Les Tielles	6 June 1982	R.A. Austin	female	
Guernsey, Pleinmont	20 June 1984	P.D.M. Costen	female	(PS 961)
Guernsey, Pleinmont	20 June 1984	P.D.M. Costen	female	(PS 964)
Guernsey, Les Tielles	22 June 1986	R.A. Austin	male	
Guernsey, Pleinmont	22 June 2009	P.H. Sterling	female	
Guernsey, Pleinmont	3 July 2010	P.H. Sterling, M.P. Lawlor, D. Foot	3 male, 2 female	

**Table 3.** Small Grass Emerald: material examined

Location	Date	Recorder	Sex	PS*
Cornwall (VC1), Kynance Cove	Larva on <i>Salix</i> coll. Sept 1985, em. 13 June 1986	J.R. Langmaid	male	(PS 965)
Devon (VC3), Woodbury, Exeter	19 May 1946	D.H. Sterling	male	(PS 982)
Devon (VC3), East Devon Pebblebed Heaths	20 June 1978	B.P. Henwood	female	(PS 963)
Dorset (VC9), Portland Bird Observatory	10 June 2005	M. Cade	male	
Dorset (VC9), Morden Bog	8 June 2004	R.R. Cook	male	
Hampshire (VC11), Denny Bog	12 June 1976	M.J. Sterling	male	(PS 962)
Hampshire (VC11), Denny Bog	30 June 1976	M.J. Sterling	female	

\* refers to genitalia preparation slide number in the Sterling collection.

In the Channel Islands it is confined to the coast, on the north coast of Jersey and the south coast of Guernsey, although examples do turn up in moth traps inland very occasionally. Nowhere does it appear to be found commonly but, on Guernsey, it occurs in all suitable areas on the cliffs between Icart and Pleinmont.

The habitat it occupies on the cliffs in Guernsey is Gorse scrub very dwarfed by the exposed maritime situation, where the moth can be disturbed by day from the low bushes. It seems that it prefers situations where the gorse is more scattered, with short maritime grassland in between. The grassland community comprises abundant Red Fescue *Festuca rubra*, with the most common herbs being Sea Thrift *Armeria maritima*, Bird's-foot Trefoil *Lotus corniculatus*, Sorrel *Rumex acetosa* and Bell Heather *Erica cinerea*. The moth does not seem to be found amongst the very sparse vegetation on the rocky cliffs where there is no Gorse.

It is interesting that South (1961) noted the species to be found amongst areas where the Gorse was cut, and that from the literature the moth used to be found commonly on the cliffs. Management of Gorse and other scrub on the cliffs no longer happens on Guernsey, and vast swathes of medium height scrub clothe the cliffs. The moth appears to be much rarer today than formerly and in our experience it is now confined to patches where the Gorse is shortest. Reinstatement of management would certainly help to extend the amount of habitat available for this now rare moth. Indeed, as Gorse is unlikely to be the larval foodplant (see below), the need for management to keep Gorse scrub patchy and short is probably all the more important.

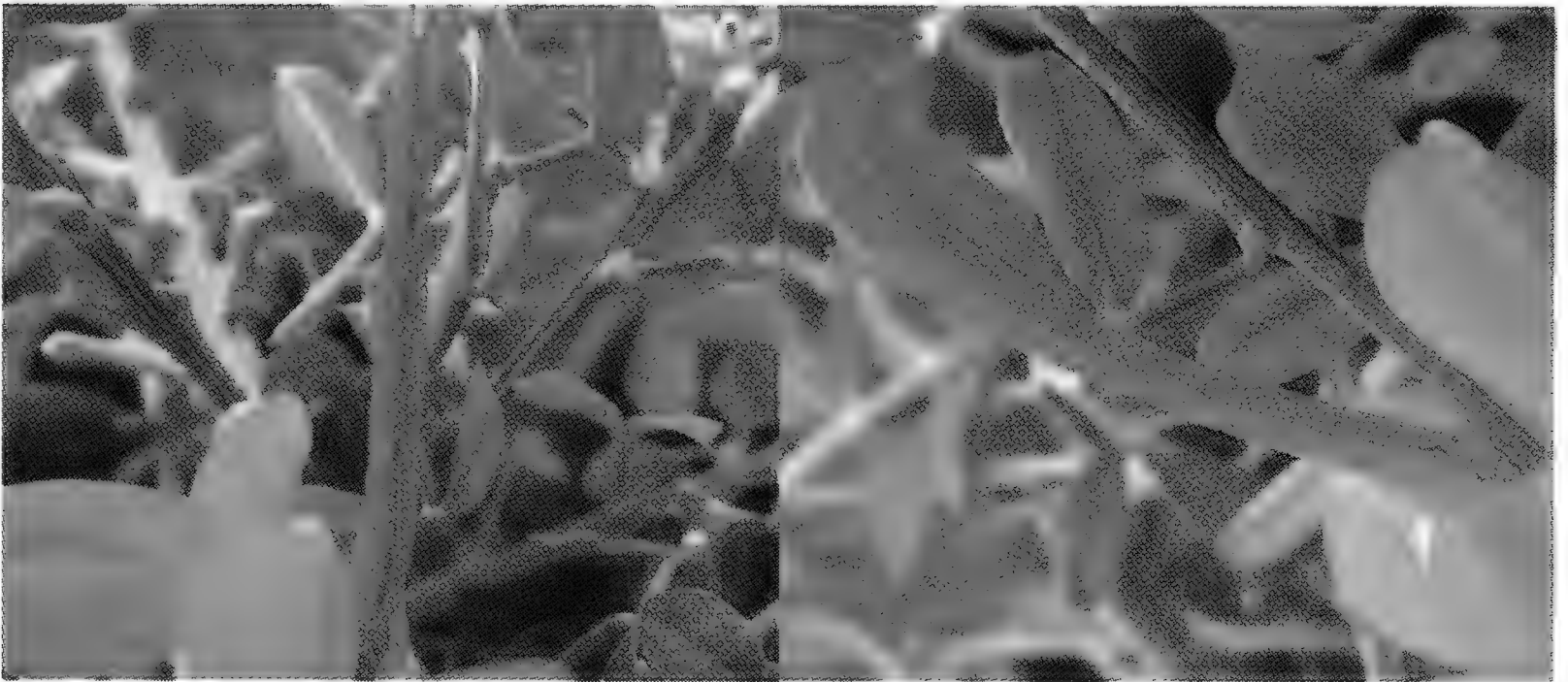
A Red Data Book for species of conservation concern on Guernsey is currently being drawn up (Gilmour & David, in prep.). We strongly advocate inclusion of Southern Grass Emerald in this listing given the isolation of colonies to these islands, the very restricted distribution of the species in northern Europe, and current rarity on Guernsey.

### Life history

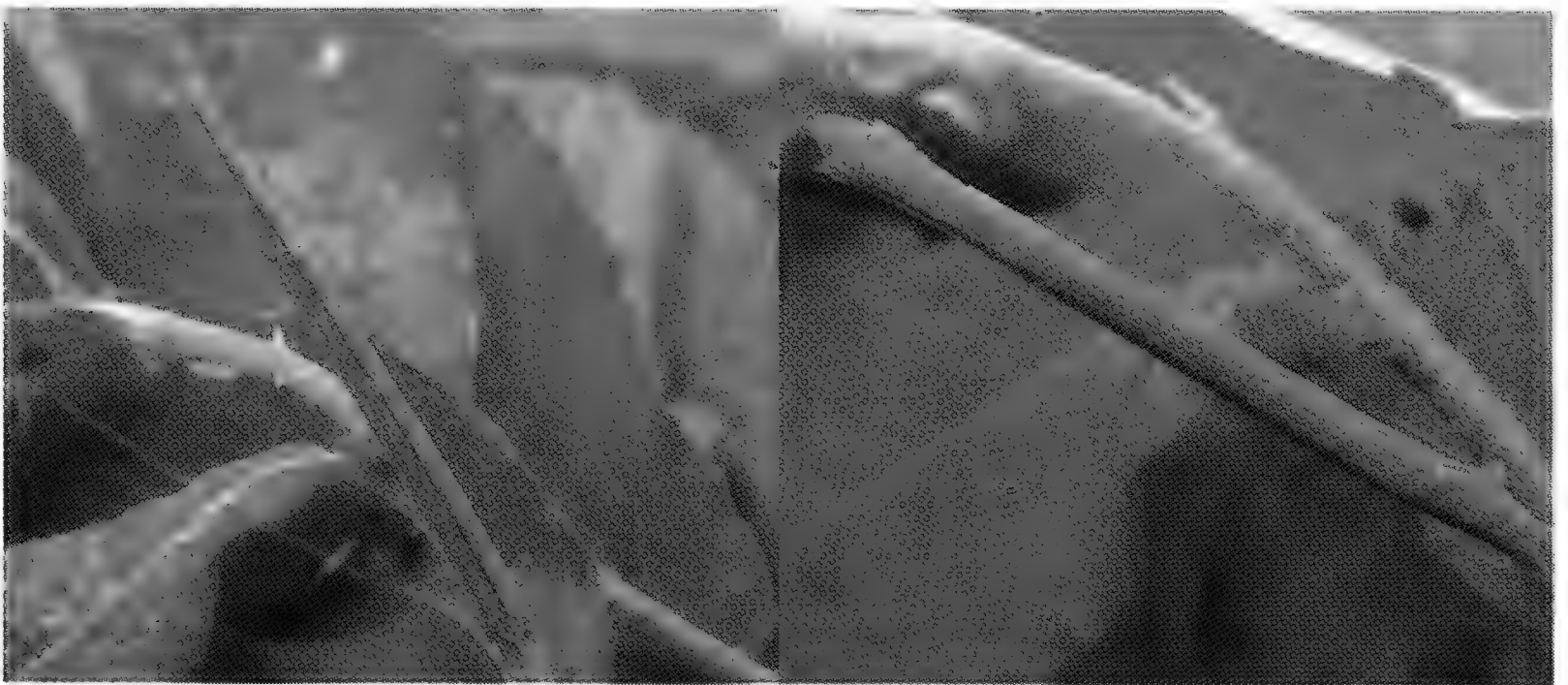
In Europe the species is mainly bivoltine, only being univoltine in montane regions, but it is clearly univoltine in the Channel Islands, occurring between late May and early July.

The early stages of the moth are not well known, and probably owing to difficulties in identifying the species, there are few definitive foodplant records. Hausmann (2001) recommends verification by dissection following rearing of the species, and says that the larva is reputed to be polyphagous on herbs, shrubs and trees, including Ling *Calluna vulgaris*, Hazel *Corylus avellana*, Hawthorn *Crataegus monogyna*, Bramble *Rubus fruticosus*, Birch *Betula* and Alder *Alnus*. Interestingly, he also reports that the larva is very difficult to rear on Bird's-foot Trefoil, and that it may have specialist requirement for a few unknown foodplants.





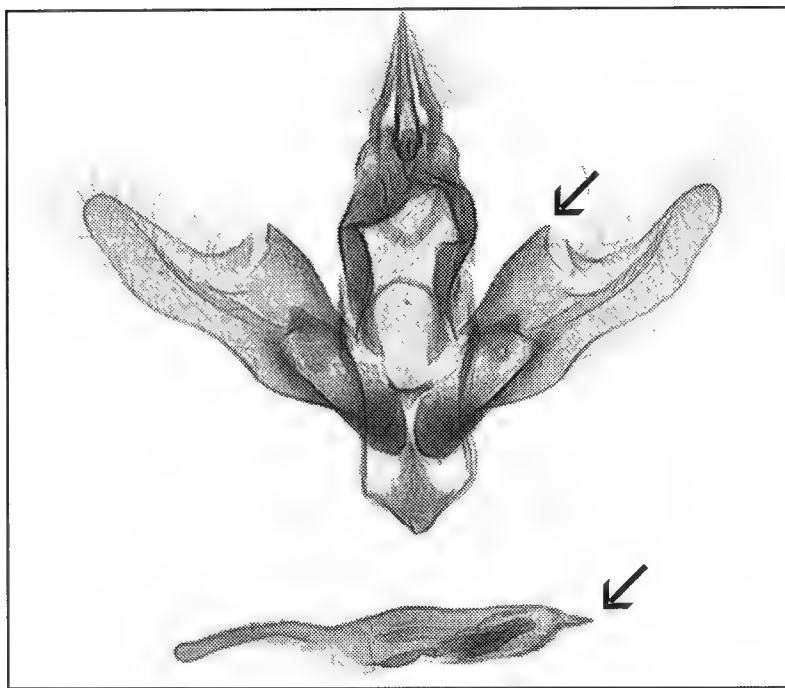
**Plate 3.** Larva of Southern Grass Emerald *Chlorissa cloraria*, dorsal view (left) and lateral view (right)



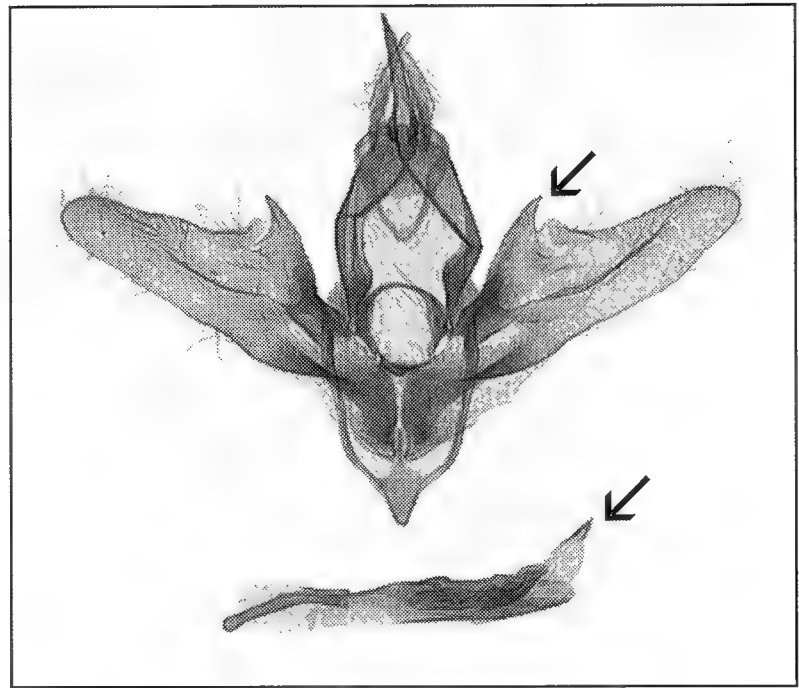
**Plate 4.** Larva of Small Grass Emerald *Chlorissa viridata*, dorsal view (left) and lateral view (right)

It is our experience too that the larva is extremely hard to rear from ova, and this is in contrast with the larva of Small Grass Emerald, which Porter (1997) describes as requiring no special conditions for successful rearing of larvae.

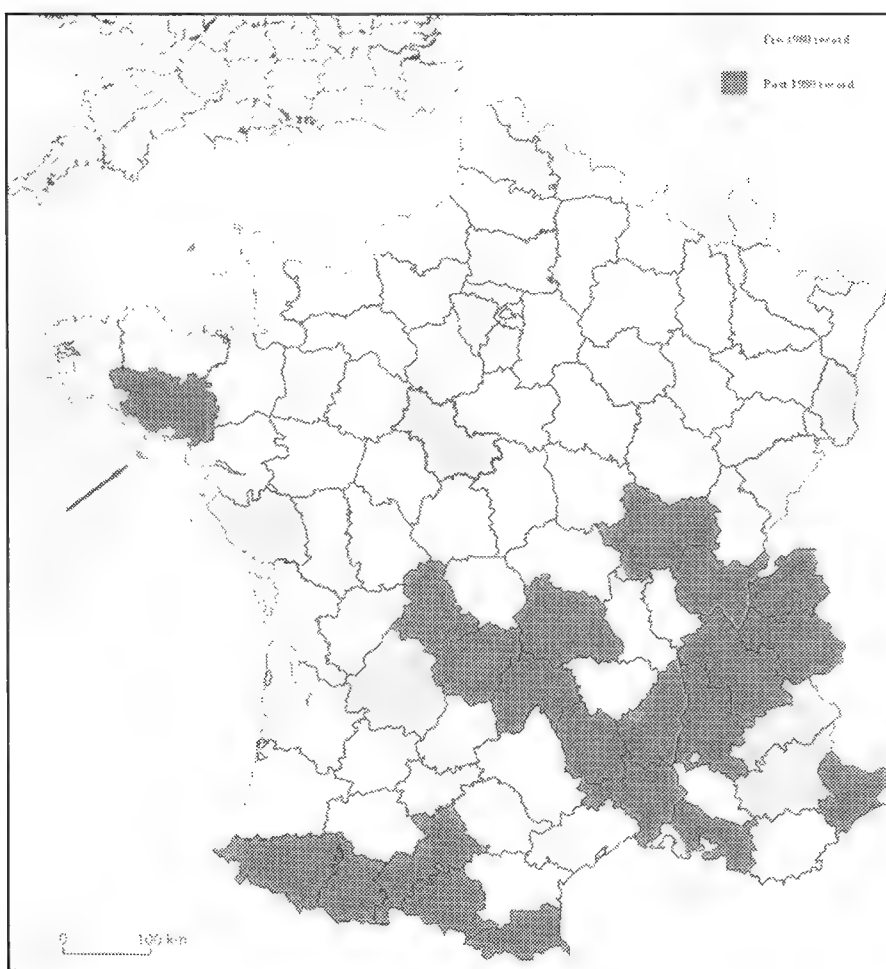
We have made two attempts at rearing from ova. Females lay readily in captivity and larvae hatch with seven days. In 2009 we attempted to feed young larvae on a wide range of pabula, including all those listed above except Bird's-foot Trefoil, plus Gorse (fresh shoots) and Bell Heather as these plants were common near where we had found the female that year. Most larvae died within a few days; but a number started to feed on the flowers of Bell Heather, but all of them died during the moult at the end of the first instar. There was no sign of feeding on Gorse.



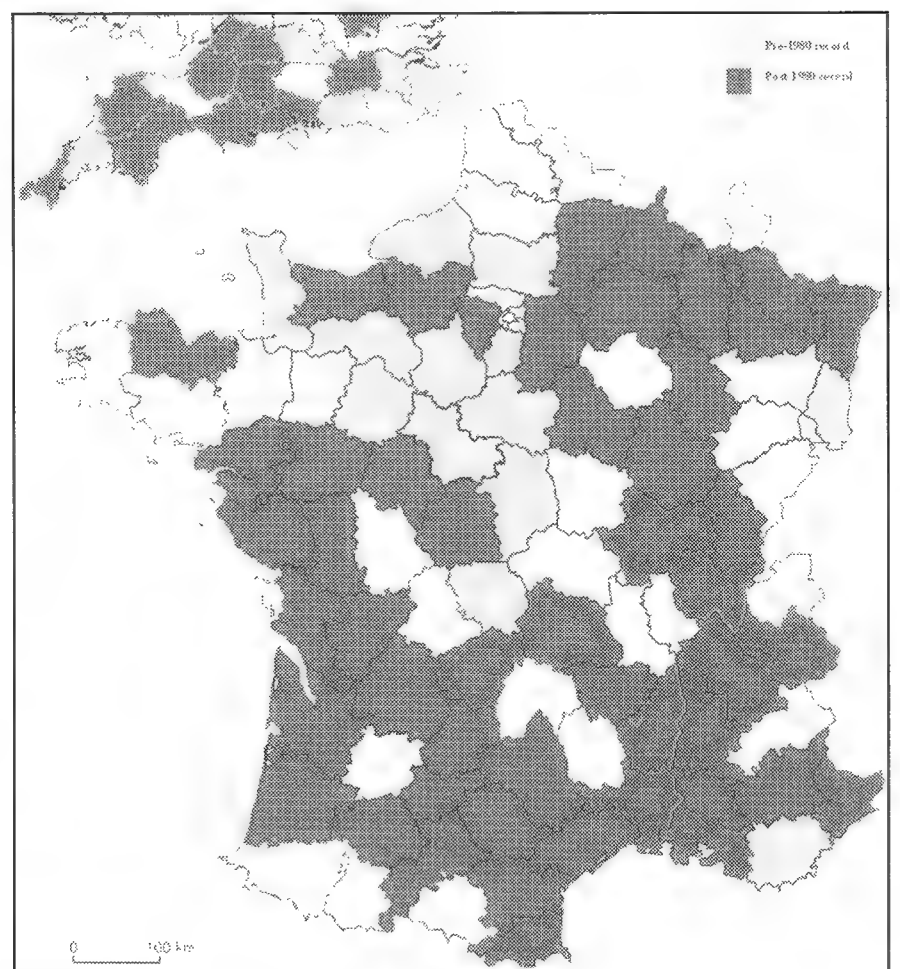
**Fig 1.** Male genitalia (valvae and aedeagus) of Southern Grass Emerald *Chlorissa cloraria* (Sterling coll., slide number PS985)



**Fig 2.** Male genitalia (valvae and aedeagus) of Small Grass Emerald *Chlorissa viridata* (Sterling coll., slide number PS982)



**Fig. 3.** Known distribution of Southern Grass Emerald *Chlorissa cloraria* in France and the Channel Islands. La Belle-Île-en-Mer is arrowed.



**Fig. 4.** Known distribution of Small Grass Emerald *Chlorissa viridata* in France and southern England.

In 2010 we found more adults, sitting amongst Gorse, but adjacent to an area containing Bird's-foot Trefoil. As the colour of the young larvae was pale yellowish we introduced half of them to the yellow flowers of the Trefoil on a potted plant and virtually all started feeding well. However, most died again at the end of first instar though two moulted successfully but died soon after. As insurance, we also introduced the rest of the larvae to the yellow flowers of Sweet Broom *Cytisus racemosus*, which is not a native species to Europe, but which



flowers profusely giving plenty of opportunity for larvae to feed. Again, most larvae died at the end of first instar, but two continued to feed very well on these flowers and one made it through to a pupa.

It is hard to understand why rearing larvae should be so difficult. It may be that ova need to be laid directly onto the flowers on which the larvae will feed, and that transferring young larvae to potted plants creates sufficient disturbance to prevent their developing tolerance in the gut to chemicals in the petals. What is also surprising is that the larvae do not eat Gorse in captivity, given that the adults seem to spend much of the time resting on this plant. It would be interesting to find oviposition sites and larvae in the wild, which as yet we have not been able to do.

There appear to be good differences between larvae of Southern and Small Grass Emerald, as listed in Table 1, and shown in Plates 3 & 4. The differences are drawn from a single final instar larva of Southern Grass Emerald and several of Small Grass Emerald, so there may be variation between individuals of the former we were not able to note. However, the yellow green of Southern Grass Emerald seems likely not to vary, and the darker green of Small Grass Emerald is constant.

### Acknowledgements

We are grateful to Dr Axel Hausmann (Munich, Germany) for his assistance to confirm the identity of *Chlorissa cloraria*. We are also grateful to Roger Long (Jersey) for arranging for a loan of specimens from the Société Jersiaise in St. Helier and to the following for donation or loan of specimens from their collections: Rich Austin (Guernsey); Dr John Langmaid (Portsmouth); Dr Barry Henwood (Newton Abbott); Ray Cook (Ferndown); Martin Cade (Portland); Mark Sterling (St. Albans). Also to Paul Harris (Weymouth) for his photograph of *Chlorissa viridata*. Our thanks also go to Les Hill (Wareham) for supplying data from the National Moth Recording Scheme, courtesy of Butterfly Conservation, and to David Costen (Guernsey) for his help in preparing the distribution maps. Finally, thanks to Mark Lawlor (Guernsey) and Dave Foot (Weymouth) for using their sharp eyes in the field to help us collect sufficient material for this paper.

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### Elephant Hawk-moth *Deilephila elpenor* (L.) (Lep: Sphingidae) feeding at sugar

South (1907. *The Moths of the British Isles*. Warne, London) mentions that Elephant Hawk-moth *Deilephila elpenor* is occasionally attracted to sugar, but the habit is not mentioned in the more recent literature. However, it still occurs. At my home address in Banffshire, 14 of the 146 records of this species in the period 1990-2010 involve individuals seen feeding at a standard sugar mixture (beer, black treacle and muscavado sugar) painted on wooden fence posts. Most moths hovered in front of the post to feed, as if at a flower. Three had touched down on the fencepost, but were still fluttering their wings. Two were feeding while settled, with wings in the resting position.

The majority of these sightings occurred early in the flight period, before honeysuckle *Lonicera periclymenum* flowers were available. Once the honeysuckle was out, sugar was clearly less attractive to this species.

South also mentions Small Elephant Hawk-moth *D. porcellus* (L.) as sometimes visiting the sugar patch, but I have never seen that here. It is the much less frequent species of the two at my inland site, being commoner on the coast.—  
ROY LEVERTON, Whitewells, Ordiquhill, Cornhill, Banffshire AB45 2HS.



### Important Lepidoptera records from the Rothamsted Insect Survey light-trap at Starcross, Devon (VC 3) in 2009

A Rothamsted Insect Survey light-trap has been operating at Starcross in Devon (site 149: SX 972821) for over 40 years. This has produced one of Rothamsted's most valuable long-term data sets and has played an important part in our understanding of changes in Britain's moth populations and the decline in many of our once common species. Despite operating for so many years, such traps can still provide records of particular interest.

During the period 6-9 July 2009 a single specimen of the Little Thorn *Cepphis advenaria* Hb. (Geometridae), was caught in the trap. This is only the second record for the county since the 19th century, with the last being recorded at light at Hares Down on 28 June 1983 by H. T King (McCormick, R. 2001. *The Moths of Devon*). Prior to this it was stated to be rare and local by Parfitt (1878. *The Fauna of Devon Lepidoptera. Rep. Trans. Devon Ass. Advmt Sci.* 10. 411-588 – cited in McCormick, *op. cit.*) and in 1952 Stidston said that the only known record was a very old one from Great Haldon (*A List of the Lepidoptera of Devon, Part I & Introduction*. Devonshire Association – again, cited in McCormick, *op. cit.*). This Nationally Scarce species has two main centres of distribution in Britain. The first is in Hampshire, with populations extending into east Dorset, the Isle of Wight, south Wiltshire, Berkshire, Surrey and West Sussex; the other is the area bordering the Bristol Channel, from north Somerset up into Herefordshire. An apparently isolated colony has also been found at Flitwick Moor, Bedfordshire (Waring, P., Townsend, M. & Lewington, R. 2003. *Field Guide to the Moths of Great Britain & Ireland*. British Wildlife Publishing).

In a catch taken over 3-6 August 2009, a single Haworth's Minor *Celaena haworthii* Curt. (Noctuidae), was found. This was the third record for Devon. The first was taken at Chardstock on 18 August 1996 by A. Jenkins (McCormick, *op. cit.*). It was then not recorded again until a singleton turned up at the Little Marsh at Slapton Ley NNR on 10 August 2005 (unpublished record on the *Slapton Ley Moth Trapping* web site at [www.slennr.org.uk](http://www.slennr.org.uk)). Subsequent to the Starcross specimen, a fourth for the county was caught by Alan Kennard at Uplyme on 20 August 2009 (A. Dobson & A. Kennard, *pers. comm.*). It is possible that the species occurs on Dartmoor, but no substantiated records have been found (McCormick, 1997. *Rep. Trans. Devon Ass. Advmt Sci.* 129. 294. Devonshire Association). *Celaena haworthii* has a very local distribution in the southern half of Britain, but is much more frequently found in north Wales, and from the north midlands into Scotland, including the Hebrides, Orkney and Shetland. It is found frequently, but locally, in Ireland (Waring *et al*, *loc. cit.*).

Many thanks to Tony Dobson for his identification of the Starcross catches and for alerting me to these interesting records, to Alan Kennard for details of his record, and to Andrew Judd at the Veterinary Investigation Centre for operating the trap.— PHILIP J. L. GOULD, Co-ordinator of the Rothamsted Insect Survey Light-trap Network, Plant & Invertebrate Ecology Department, Rothamsted Research, Harpenden, Hertfordshire AL5 2JQ (E-mail: [phil.gould@bbsrc.ac.uk](mailto:phil.gould@bbsrc.ac.uk)).

## THE IMMIGRATION OF LEPIDOPTERA TO THE BRITISH ISLES IN 2008

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### Abstract

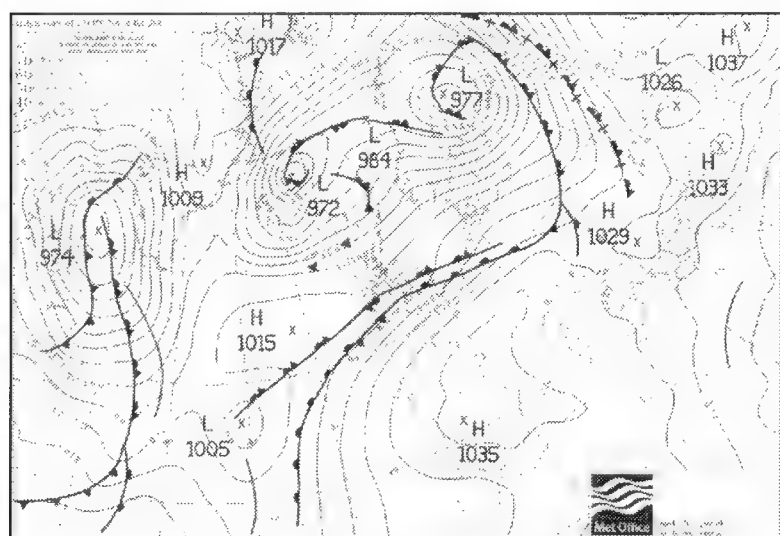
Formally accepted records of immigrant Lepidoptera occurring in the British Isles during the year 2008 are listed and discussed. For less frequently encountered species, full information is given in Annex 1, presented in vice-county order, the individual localities then listed alphabetically for each VC. For the more regular immigrant species, annual summaries and a selection of the more important records are presented in Annex 2.

**Keywords:** British Isles, Lepidoptera, immigration.

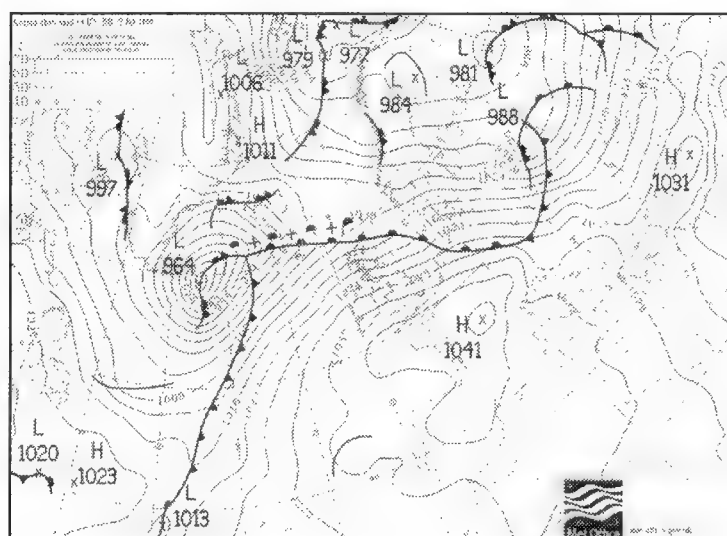
### Introduction

Although 2008 proved to be another relatively quiet year for migrant Lepidoptera, this impression may, in part, be due to the inevitable comparisons made since 2006 with that phenomenal season of immigrant activity. In fact 2008 was not without its fair share of excitement and records of interest.

Undoubtedly the most significant immigrant event was the prolonged and unprecedented period of winter immigration that took place during the first two months of the year. The major feature of this event was the record arrival of *Euchromius ocella* (Haw.) that made landfall mainly in Cornwall, but occurred as widely as the Isle of Wight, South Wales and southern Ireland. The total number recorded more than quadrupled the previous highest annual total of 32 in 2004. With recording activity at a low ebb at this time of year and given the huge distance these moths had travelled, the actual numbers involved in this movement must have been remarkable. Davey (2008) gives more information on this event, including associated species, and weather and Saharan dust plume charts. The two pressure charts below show the deep southerly airstreams that immediately preceded the two main arrival periods.



**Figure 1.** Weather system charts for 20 January 2008.





During the remainder of the year numbers of immigrant species generally remained below average with species such as *Hyles livornica* (Esp.), *Peridroma saucia* (Hb.), *Mythimna loreyi* (Dup.) and *Heliothis peltigera* (D. & S.) having particularly poor years, whilst there were no reports whatsoever of *Trichoplusia ni* (Hb.), a species prolific enough in 2006 to be moved into Annex 2! In contrast, upsurges in the numbers of *Tebenna micalis* (Mann), *Cyclophora ruficiliaria* (H.-S.), *Proxenus hospes* (Frey.) and *Macdunnoughia confusa* (Steph.) were likely to have included an element of local breeding.

Numbers of immigrant *Cyclophora puppillaria* (Hb.) were also low in 2008, although the discovery of the first wild larvae in Britain in VC10 early in the year followed by a series of adult records from the same site was significant and provided proof that this species is capable of surviving the British winter in the larval stage and at least temporary colonisation of our shores.

Five listed species were new to the UK in 2008: *Prays olae* Bernard, *Aethes bilbaensis* (Rössler), *Diaphania perspectalis* (Walk.), *Dryobotodes tenebrosa* (Esp.) and *Elaphria agrotina* (Guen.); although the occurrence of three of these was almost certainly the result of artificial importation. Other listed species of note included the following: *Zelleria oleastrella* (Mill.), two examples on the Scillies, the first since the first four UK records in 2006; *Diplopseustis perieresalis* (Walk.), the third and fourth UK records from VC's 20 & 59; *Herpetogramma licarsisalis* (Walk.), the fifth to seventh UK records in VC1; *Iphiclides podalirius* (L.), a single record from VC14; *Aporia crataegi* (L.), one in VC11; *Stegania trimaculata* (Vill.), the third UK record in VC9; *Chiasmia aestimaria* (Hb.), the fourth UK record in VC15; *Spodoptera cilium* (Guen.), two records including the first from Ireland; *Galgula partita* (Guen.), the second UK record from VC1 and the first with the potential to relate to primary immigration; *Ctenoplusia limbirena* (Guen.), three examples, from VC's 1, 9 & 15; *Catocala electa* (View.), the fourth modern UK record, found by day in VC15; and *Tathorhynchus exsiccata* (Led.), a single record coinciding with the mass winter arrival of *E. ocella*.

### *Guidelines for contributors*

To avoid unnecessary delays in publishing future reports, it would help greatly if contributors adhere to the following guidelines: data should include the vice-county, recorder, stage (if not an adult), number observed, and the date. For light-trap records list the date the trap was switched on, not the date it was inspected. This is a universally accepted convention to avoid the possible duplication of records.

There remains a noticeable shortage of records from more northern and inland sites submitted for the current report. Records of migrant species from such sites would be gratefully received for future reports, and the regional summaries and categories of listed records for Annex 2 species have been introduced to take

account of records of this nature. County recorders not already submitting migrant data for these annual reports are keenly requested to do so, even if their respective counties are not favourably positioned to receive arrivals. Migrant records from such northern & inland sites are often more significant in showing the range and scale of immigrations of species routinely recorded from more southern, coastal locations.

It should be noted that statistics relating to the total number and distribution of **all** records received/sourced of nocturnal Annex 2 species are now given, so please continue to submit records of all these species. It must also be stressed that it has become impossible to monitor the growing number of e-mail/website migrant forums and the posting of records on such sites will not necessarily result in their inclusion in future reports. It is therefore essential that migrant records are submitted to the relevant county recorder, published within the entomological press or sent directly to the report author.

Whilst able to source information published in the entomological press, the author is greatly reliant on county recorders to submit migrant records. However, despite direct approaches being made to this end, a number of county recorders have failed to produce any information for inclusion in the following report, therefore preventing a completely comprehensive summary to be produced. Whilst additional, late records can be published in future appendices, it is always preferable that they are included within the report relating to the year of occurrence. If readers have recorded (or are aware of) significant migrant records from 2008 that are not in the current report but have been submitted to the relevant county recorder, it can be assumed these have not been forwarded to the author. The author would be pleased to receive such records, whilst recorders should encourage their respective county recorders to make migrant records available for inclusion in future reports.

County recorders, or those submitting large volumes of data are asked to sort their data by vice-county, species name, and then by date order. Contributions are particularly welcome in electronic format (pref. MS Excel) to the author at the e-mail address given at the start of the report. Paper copies may also be submitted to the postal address over the page. Should readers be aware of any significant omissions or errors in this or earlier reports, these would be welcomed for inclusion in future appendices. Contributors are also requested to provide the middle initial(s) of recorders wherever possible to assist with the accreditation of records.

Recent reports have been extended to include the more interesting records of adventives as these often help to establish the origin of other records or colonisations of the respective or associated species. Extralimital records of resident species that may be the result of immigration or internal vagrancy are also included in reports. Records of this nature are therefore also welcome for inclusion in future reports.

The following abbreviations have been adopted since the 2002 report. These remain unaltered and exclude any variation in status found on the Channel Islands



(VC113). However the categorisation of individual species is reviewed annually in the light of any recent/ongoing changes in status. A brief introductory statement has also been added to the accounts for a number of listed resident species in order to clarify the type of record that is included in these reports.

### Abbreviations

**[I]** – Primary immigrant or the direct progeny of a primary immigrant. Where this is the only category given, believed to relate to a species that is unable to maintain a viable, self-sustaining resident population through a typical British winter.

**[In]** – Introduction or importation. A species artificially introduced into Britain by man. Can include synanthropic species that are only able to sustain breeding populations in Britain under conditions that do not occur naturally.

**[MC]** – Migrant Colonist. An immigrant species that has established extant, short-term breeding populations in Britain, but these believed to have been present for fewer than ten consecutive years.

**[R]** – Resident. A species with an established breeding population in Britain, this having been present for a minimum of ten successive years.

**[FR]** – Former Resident. A species that was formerly an established resident but has no known resident populations in Britain at the time of writing.

**[V]** – Vagrant/wanderer. A species recorded well away from its known British breeding range, but the record most likely to have been the result of internal, domestic dispersal.

Channel Islands (VC113) records are no longer included in the main species accounts due to their southerly position, locating them outside the biogeographical area of Great Britain and Ireland. This often leads to differing statuses of listed species within VC113 and occurrence patterns of immigrant species that are not comparable with records in Great Britain and Ireland. However, records of recent colonists and rare immigrants in VC113 can be precursors of arrivals in Britain, so significant VC113 records are given in Annex 3.

## ANNEX 1: RECORDS OF SCARCER SPECIES IN 2008

### TINEIDAE

0277 *Oinophila v-flava* (Haw.) [R][In][I?]

E. KENT [15] Pegwell, 16.7, 28.7, 30.7 (3), 2.8, 4.8, 7.8, 22.8, 30.8 (Solly *et al.*, 2009).

0278a *Opogona omoscopa* (Meyr.) [In]

N.E. YORKSHIRE [62] Skelton, 15.8 (at light), first VC record (see also Appendix 2) (Money, 2009).

### CHOREUTIDAE

0386 *Tebenna micalis* (Mann) [I]

Total no. reported: 280+

By vice-county: 1 (110), 2 (167), 4 (1), 37 (1), 46 (1).

W. CORNWALL [1] Cury, 27.8 (3 to light, 1 by day), 28.8 (17 by day), 29.8 (10 by day), 30.8 (2 by day), 31.8 (4 by day) (FTJ); IOS: Longstone, St Mary's, 5.8, 8.9, 13.9, 28.9 (2) (MWS), October (by

day on Ragwort *Senecio jacobaea*): 5.10 (40), 8.10 (20), 11.10 (3), 12.10 (MWS); St Mary's, 11.10 (Scott, 2009a); Maenporth, 18.7, 30.8, 25.9 (Davis, 2009). E. CORNWALL [2] Crafhole, 26.8 (by day) (JCN per LACT); Donderry, 27.8 (4 by day) (JCN per LACT), 18.9 (at light) (SCM per LACT); Lower Tregantle, 28.8 (3 by day) (LACT); Millendreath, 27.8 (3 by day) (JCN per LACT); Minadew, 26.8 (by day) (LACT); Penlee Battery (by day), 27.7 (2), 1.8 (2), 2.8 (1), 19.8 (5), 20.8 (22), 21.8 (24), 22.8 (30), 29.8 (14), 30.8 (18), 2.9 (JCN, LACT); Polhawn Cove, 25.8 (4 by day) (LACT); Rame, 29.8 (by day) (LACT); Seaton, 23.8 (4 by day), 25.8 (15 by day) (JCN per LACT); Sheviok, 27.8 (by day) (LACT); Southdown Millbrook, 28.8 (by day) (JCN per LACT); Torpoint, 29.8 (AP per LACT); Tregantle, 22.8 (4 by day) (JCN, LACT); Trerulefoot, 29.8 (2 by day) (JCN per LACT); Whitsand Bay, 19.9 (2 at light) (JCN per LACT). N. DEVON [4] Zeal Monachorum, 24.9 (to light) (SDB, in Dickson, 2009). WORCESTERSHIRE [37] Chaddeley Wood, 4.10, first VC record (M. Kennard, in Langmaid & Young, 2009). CARDIGANSHIRE [46] Mwnt, 20.8, first VC record (ANBS, in Langmaid & Young, 2009).

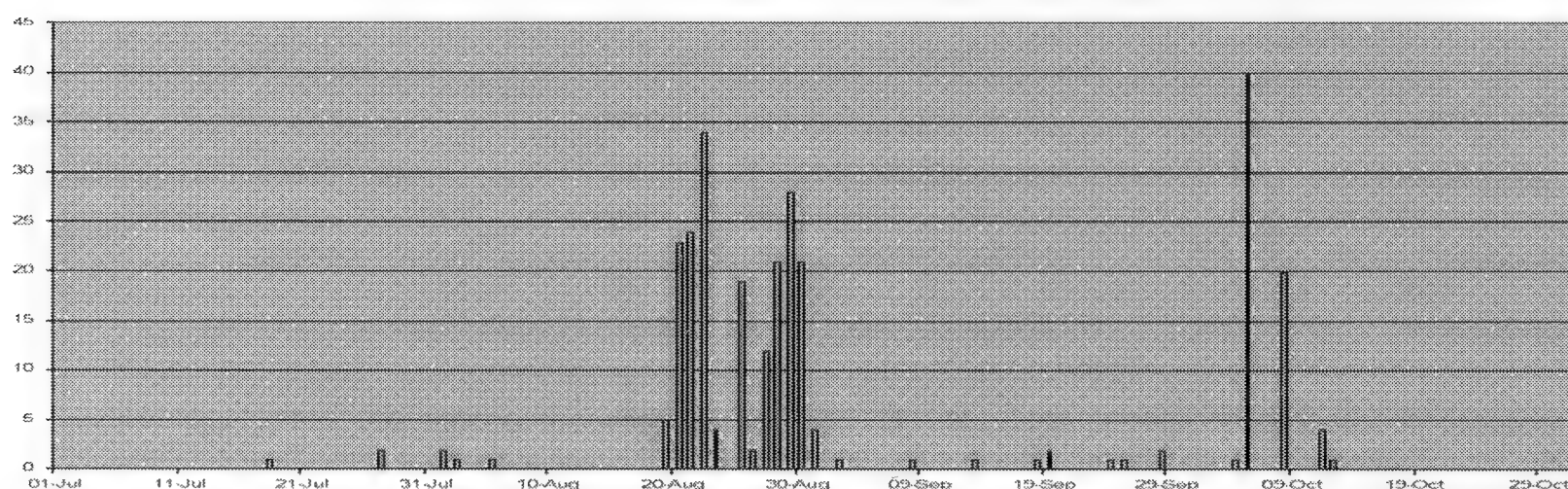


Figure 3. Occurrence times of *Tebenna micalis* during 2008.

#### YPONOMEUTIDAE

##### 0428 *Yponomeuta rorrella* (Hb.) [R][V/I]

Coastal records of possible immigrant examples. A widely recorded (but not widely reported) influx of this species occurred into south-east England (between Dorset and south Yorkshire) during the last week of July 2008.

DORSET [9] West Bexington, July (16), August (2) (Eden, 2009). HAMPSHIRE [10/11/12] A total of 53 moths recorded, with an influx between 25.7 & 30.7 (Barker *et al.*, 2009; per TJN). E. KENT [15] New Romney, 25.7 (2), 26.7 (3), 27.7 (10), 28.7 (6), 30.7 (3), 6.8 (SPC). S. ESSEX [18] Maldon, 24.7 (3) (S. Wood). E. SUFFOLK [25] Bawdsey, July (33), August (5) (Deans, 2009); Minsmere, July (2) (Harvey & Higgott, 2009). NORFOLK [27/28] Influx of over 100 examples on 26.7 (JC, in Barker *et al.*, 2009). S.E. YORKSHIRE [61] Spurn, 25.7 (5), 30.7, 15.8 (BRS).

##### 0435a *Zelleria oleastrella* (Mill.) [I][MC?]

W. CORNWALL [1] IOS: Longstone, St Mary's, 22.8, 30.8 (MWS).

##### 0449b *Prays peregrina* Agassiz [In]

S. ESSEX [18] Ilford, 14.9, first VC record (K. Black, in Langmaid & Young, 2009).

##### 0449c *Prays oleae* Bernard [In]

W. KENT [16] Grain, 22.7, new to Britain (AGJB, in Langmaid & Young, 2009).

#### ETHMIIDAE

##### 0718 *Ethmia dodecea* (Haw.) [R][I/V]

Coastal/extralimital records of possible immigrant examples.  
E. KENT [15] Kingsdown, 7.7 (Jarman & Morris, 2009).

##### 0720 *Ethmia bipunctella* (Fabr.) [R][I][V]

Records away from VC's 14, 15 & 25 where breeding populations are present and dispersal from these is the likely source of most VC records.  
LEICESTERSHIRE [55] Leicester, 27.8, first VC record (AJM, in Langmaid & Young, 2009).



## TORTRICIDAE

0951a *Aethes bilbaensis* (Rössler) [I/R?]

N. DEVON [4] Zeal Monachorum, 24.7, new to Britain (SDB, in Dickson, 2009).

0955 *Eupoecilia ambiguella* (Hb.) [R][V/I]

Coastal/extralimital records of possible immigrant examples.  
E. SUFFOLK [25] Minsmere, 6.8 (Harvey & Higgott, 2009).

1215 *Thaumatotibia leucotreta* (Meyr.) [In]

N. HAMPSHIRE [12] Basingstoke, 5.8, larva in orange in supermarket (adult bred), first VC record (AHD, in Barker *et al.*, 2009).

1262 *Cydia amplana* (Hb.) [I]

**Total no. reported: 265+**

**By vice-county: 9 (240+), 10 (2), 11 (4), 12 (1), 15 (9), 16 (1), 25 (6), 61 (2).**

DORSET [9] Portland Bird Observatory, 24.7 (c.200), 'smaller numbers on subsequent nights' (Cade, 2009); Southwell, Portland, 24.7 (40), 'smaller numbers on subsequent nights' (Cade, 2009). ISLE OF WIGHT [10] Totland, 28.8 (2) (SAK-J per TJN). S. HAMPSHIRE [11] Funtley, 25.8 (MLO per TJN); Lymington, 16.8 (PD per TJN); Southsea, 21.8 (2) (JRL per TJN). N. HAMPSHIRE [12] Shorth Heath Common, 7.8, first VC record (AMD, in Langmaid & Young, 2009). E. KENT [15] Dymchurch, 30.7, 6.8 (2), 19.8 (JEO per SPC); Kingsdown, 6.8 (Jarman & Morris, 2009); New Romney, 31.7 (3) (SPC, AMT); St Margaret's at Cliffe, 9.8 (Jarman & Morris, 2009). W. KENT [16] Grain, 31.7 (AGJB per IDF). E. SUFFOLK [25] Bawdsey, 14.8 (Deans, 2009); Dunwich Heath, 22.7 (Moore, 2009); Ipswich, 6.8 (NS per AWP); Landguard, 10.8, 11.8 (Odin, 2009); Thorpeness, 1.8 (AWP). S.E. YORKSHIRE [61] Flamborough, 1.8 (IM per CHF); Spurn, 31.7 (Spence, 2009).

## PYRALIDAE

1289 *Euchromius ocella* (Haw.) [I]

**Total no. reported: 144**

**By vice-county: 1 (85), 2 (10), 3 (1), 9 (24), 10 (17), 11 (1), 25 (1), 41 (1), H6 (4).**

W. CORNWALL [1] Buryas Bridge, 22.1 (LO); Church Cove, The Lizard, 23.1 (9), 28.1 (20), 29.1 (3), 3.2, 8.2, 9.2 (3) (MT, in Davey, 2008); Cury, The Lizard, 23.1, 12.2 (FTJ); Cury Cross Lanes, The Lizard, 28.1 (3), 8.2, 10.2 20.2 (MT, in Davey, 2008); IOS: Longstone, St Mary's, 23.1 (3), 25.1, 27.1 (6), 28.1 (3), 5.2, 6.2, 7.2 (2), 8.2, 20.2 (3), 21.2 (MWS, in Davey, 2008), 6.3 (Scott, 2009a); IOS: St Agnes, 22.1, 25.1, 9.2 (Scott, 2009a); Greatwork, 28.1, 6.2 (TJ); Maenporth, 23.1, 29.1 (3), 7.2 (2), 10.2, 11.2, 12.2 (Davis, 2009); Trewellard, 9.2 (2) (J. Foster). E. CORNWALL [2] Donderry, 28.1 (JCN per LACT); Marsland, 28.1 (8) (SO); Morwenstow, 10.2 (SO). S. DEVON [3] Starcross, 27.5 (Dickson, 2009). DORSET [9] Broadwey, 28.1, 29.1 (PH); Dancing Ledge, 9.2 (Davey, 2008); Durlston, 23.1 (4), 29.1 (5) (Davey, 2008); Portland Bird Observatory, 23.1 (2), 27.1, 28.1 (5), 29.1 (MC, in Davey, 2008); Preston, 3.2 (MF); Walditch, 23.1, 29.1 (Parsons, 2009). ISLE OF WIGHT [10] Bonchurch, 23.1, 29.1 (2), 5.2, 8.2, 13.2 (JH); Freshwater, 28.1 [incorrectly dated as 7.2 in Knill-Jones, 2009a] (DBW per SAK-J); Totland, 25.1 (3), 26.1, 28.1 (4), 7.2, 23.2 (Knill-Jones, 2009a). S. HAMPSHIRE [11] Lymington, 29.1 (AH). E. SUFFOLK [25] Reydon, 6.9 (AC per AWP). GLAMORGAN [41] Llanishen, 11.2, first modern VC record (DJS, in Langmaid & Young, 2009).

WATERFORD [H6] Glendaloughin, 11.2 (S. MacAmhalghaidh); Tramore, 9.2 (2), 4.4, first VC records (Bryant & Walsh, 2009).

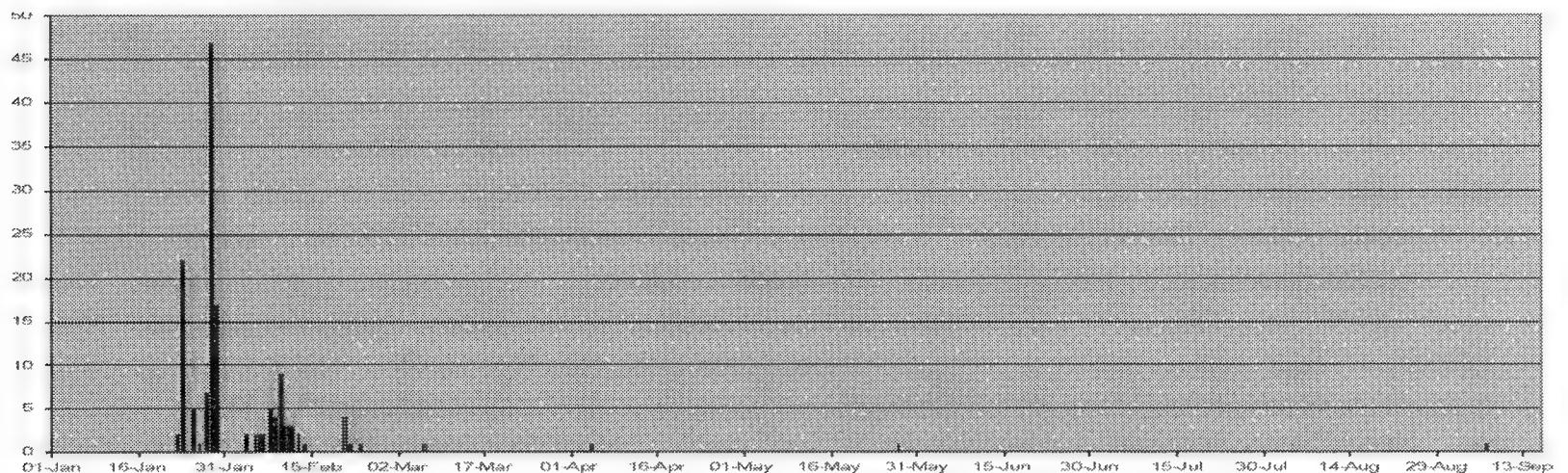
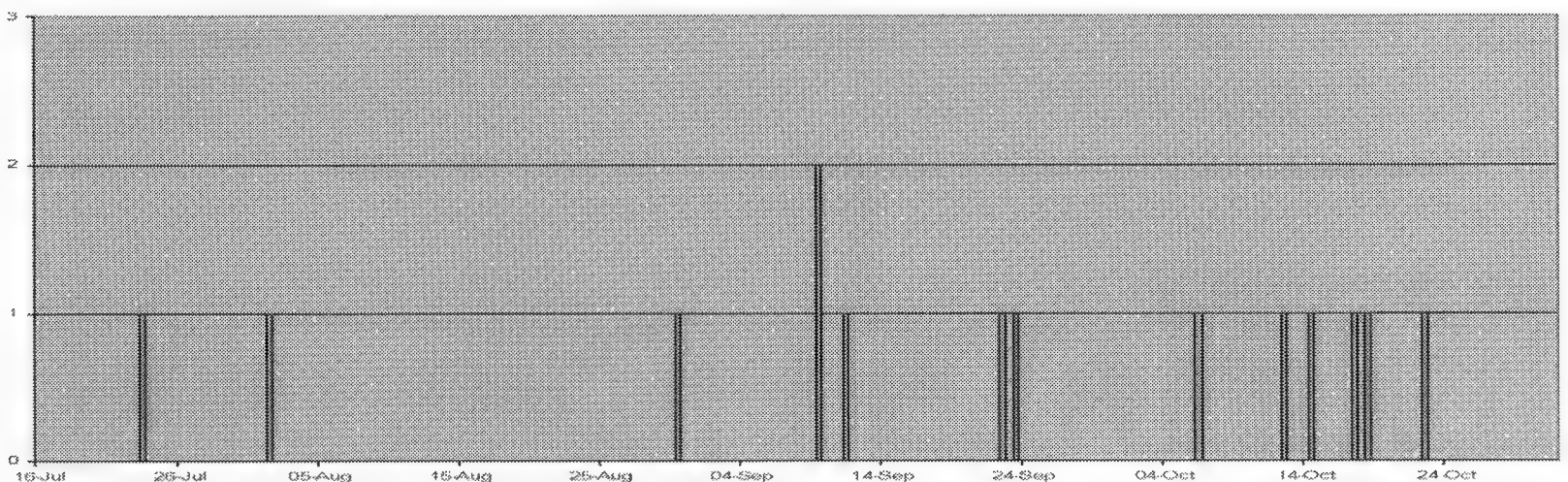


Figure 4. Occurrence times of *Euchromius ocella* during 2008.

- 1291** *Haimbachia cicatricella* (Hb.) [I][MC?]  
E. KENT [15] Dungeness, 6.8 (PGA).
- 1296** *Crambus silvella* (Hb.) [R][I/V]  
Coastal/extralimital records that may refer to immigrant examples.  
W. CORNWALL [1] Cury, 28.7, first VC record (FTJ, in Langmaid & Young, 2009). S. DEVON [3] Uplyme, 2.8, second VC record (AK per RFM).
- 1325** *Platytes alpinella* (Hb.) [R][I/V]  
Extralimital records of possible immigrant examples.  
S. HAMPSHIRE [11] Funtley, 30.7 (TDC, in Barker *et al.*, 2009).
- 1356a** *Evergestis limbata* (L.) [R][V/I]  
An established resident in VC's 9, 10, 11, 13, 14 & 15; records only listed outside these VC's, but most likely to relate to range spread.  
W. CORNWALL [1] Maenporth, 12.8, first VC record (JHC). N. HAMPSHIRE [12] Bishop's Sutton, 30.7, first VC record (P. Thompson, in Langmaid & Young, 2009). N. ESSEX [19] Kirby-le-Soken, 29.6 (PBe).
- 1357** *Evergestis extimalis* (Scop.) [R][I][V]  
An established resident in parts of southern England and East Anglia, recorded more sporadically elsewhere, and consequently records have not been included in the current report from VC's 13, 14, 15, 18, 19, 25 & 26. The following records are from areas where resident populations are not currently known, and are likely to relate to immigrant or vagrant examples.  
E. CORNWALL [2] Downderry, 9.9 (JCN per LACT). DORSET [9] Portland Bird Observatory, August (1) (Cade, 2009); West Bexington, August (2) (Eden, 2009). ISLE OF WIGHT [10] Bonchurch, 25.7 – 3.8 (7) (JH); Totland, 25.7 (SAK-J per TJN). E. NORFOLK [27] Sheringham, 29.7, 30.7 (MMC per JW). S.E. YORKSHIRE [61] Spurn, 6.8, 10.8 (Spence, 2009).
- 1360** *Hellula undalis* (Fabr.) [I]  
W. CORNWALL [1] Church Cove, 9.9 (Tunmore, 2009).
- 1369** *Uresiphita polygonalis* (D. & S.) [I]  
W. CORNWALL [1] Church Cove, 7.10 (Tunmore, 2009). NORTHAMPTONSHIRE [32] Easton Hornstocks, 11.9; first VC record (PC, MJH, KT).  
WATERFORD [H6] Tramore, 22.9 (Bryant & Walsh, 2009).
- 1370** *Sitochroa palealis* (D. & S.) [I/V][R]  
Coastal/extralimital records that may relate to immigrant examples.  
E. SUSSEX [14] Peacehaven, 7.8 (Pratt, 2009). E. KENT [15] Dungeness, 27.6, 29.6, July (1) (DW, PGA); Greatstone, 30.7 (BBa); Lydd-on-sea, 22.7 (DB). E. SUFFOLK [25] Bawdsey, 3.8, 4.8 (Deans, 2009).
- 1374a** *Sclerocona acutellus* (Evers.) [In][I?]  
S. DEVON [3] Bovey Tracey, 27.6, 2.7 (BBe).
- 1375** *Ostrinia nubilalis* (Hb.) [R][I][V]  
An established resident in south-east England, recently extending its range westward and northward, and consequently records have not been included in the current report from the southern and eastern seaboard counties between VC's 9 & 27, and inland to VC's 12, 16 & 17. The following records are probably the result of internal range expansion, although fresh immigration from the continent is a possibility, particularly for the more coastal records.  
W. CORNWALL [1] Cury Cross Lanes, 24.7 (Tunmore, 2009). S. DEVON [3] Uplyme, 6.7, 26.8 (AK). BUCKINGHAMSHIRE [24] Chorleywood, 4.7, 31.7 (R. Ellis per CWP). CAMBRIDGESHIRE [29] Wicken, 13.7 (CWP). W. NORFOLK [28] Lynford, 15.7 (M. Ottley per JW). S.E. YORKSHIRE [61] Spurn, 9.6 (Spence, 2009). SHETLAND ISLANDS [112] Eswick, 28.7 (Anon., 2008a).
- 1396** *Mecyna flavalis* (D. & S.) [R][V/I]  
Coastal records away from known breeding colonies that may refer to immigrants.  
DORSET [9] Portland Bird Observatory, 25.7 (Cade, 2009). E. KENT [15] Dungeness, 29.7, first modern VC record (KR).



- 1397a** *Diploseustis perieresalis* (Walk.) [I/In]  
 HERTFORDSHIRE [20] Bishops Stortford, 22.8, first VC record (JF, JR, in Langmaid & Young, 2009). S. LANCASHIRE [59] Billinge, 23.7, first VC record (CAD per SMP).
- 1400** *Antigastra catalaunalis* (Dup.) [I]  
 DORSET [9] Portland Bird Observatory, 14.9 (Cade, 2009). E. SUSSEX [14] Icklesham, 14.9 (Hunter, 2009). E. KENT [15] Ruckinge, 13.9 (BBo per SPC).
- 1403a** *Duponchella fovealis* (Zell.) [I][In]  
 N. LANCASHIRE [60] Yealand Conyers, 15.7, indoors (B. Hancock per SMP).
- 1404** *Spoladea recurvalis* (Fabr.) [I]  
 DORSET [9] Eype's Mouth, 13.10 (Parsons, 2009).
- 1406a** *Herpetogramma licarsisalis* (Walk.) [I]  
 W. CORNWALL [1] Church Cove, The Lizard, 11.10 (MT); Maenporth, 13.10 (GD); St Buryan, 11.10 (N. Beasley).
- 1408** *Palpita vitrealis* (Rossi) [I]  
**Total no. reported: 18**  
**By vice-county: 1 (6); 2 (1); 9 (4); 10 (1); 14 (1); 15 (2); 18 (1); 24 (1); 27 (1).**  
 W. CORNWALL [1] Church Cove, 14.10, 18.10 (Tunmore, 2009); Coverack, 9.9 (DCGB); Cury Cross Lanes, 12.10 (Tunmore, 2009); IOS: Longstone, St Mary's, 1.8, 22.9 (Scott, 2009a). E. CORNWALL [2] Marsland, 9.9 (SO per LACT). DORSET [9] Portland Bird Observatory, August (1), October (1) (Cade, 2009); West Bexington, August (1), September (1) (Eden, 2009). ISLE OF WIGHT [10] Bonchurch, 11.9 (JH). E. SUSSEX [14] Friston Forest, 30.8 (MB per CRP). E. KENT [15] Dungeness, 17.10 (DW); Pegwell, 6.10 (Solly *et al.*, 2009). S. ESSEX [18] Bradwell-on-sea, 23.9 (Dewick, 2009). BUCKINGHAMSHIRE [24] Flackwell Heath, 22.10 (MN per MVA). E. NORFOLK [27] Holme, 23.7 (JW).



**Figure 5.** Occurrence times of *Palpita vitrealis* during 2008.

- 1409a** *Diaphania perspectalis* (Walk.) [In]  
 E. SUSSEX [14] Icklesham, 23.9, 24.9 (K. Thornton, P. Jones, IDH). SURREY [17] Weybridge, 4.9 (Mitchell, 2009). New to Britain.
- 1410** *Agrotera nemoralis* (Scop.) [R][V/I]  
 DORSET [9] West Bexington, 28.6, first VC record (Eden, 2009).
- 1435** *Conobathra tumidana* (D. & S.) [I]  
 DORSET [9] Portland Bird Observatory, 24.7 (Cade, 2009). E. SUFFOLK [25] Ipswich, 25.8 (NS per AWP).
- 1441** *Oncocera semirubella* (Scop.) [R][V/I]  
 Coastal/extralimital records of possible immigrant/vagrant examples.  
 ISLE OF WIGHT [10] Totland, 25.7 (SAK-J, in Dickson, 2009). E. KENT [15] Dungeness, 2.7, 27.7, 29.7 (DW, KR). E. SUFFOLK [25] Ipswich, 5.8 (NS, in Dickson, 2009).

- 1454** *Dioryctria abietella* (D. & S.) [R][I][V]  
Coastal records away from suitable breeding habitat that may relate to immigrants.  
W. CORNWALL [1] IOS: Longstone, St Mary's, 29.6, 12.7, 17.7, 21.8 (MWS). E. KENT [15] Dungeness, June (1) (PGA); Lydd-on-sea, 31.7 (DB). S.E. YORKSHIRE [61] Easington, 2.8 (MFS per BRS); Spurn, 6.6 (Spence, 2009). SHETLAND ISLANDS [112] Ocrabooy, 6.7 (Anon., 2008a).
- 1454b** *Dioryctria sylvestrella* (Ratz.) [MC][I][V]  
Now breeding locally in southern and south-east England, the following coastal or extralimital records may relate to fresh immigration or internal vagrancy.  
ISLE OF WIGHT [10] Bonchurch, 21.7 (JH). E. KENT [15] Dymchurch, 1.8 (JEO); Lydd, 26.8 (KR); New Romney, 6.8 (KR).
- 1461** *Assara terebrella* (Zinck.) [R][I][V]  
Coastal records away from habitat that may relate to immigrant examples.  
S. HAMPSHIRE [11] Southsea, 28.7 (IRT).
- 1465** *Nephopterix angustella* (Zell.) [R][V/I]  
Extralimital/coastal records with a potentially immigrant origin.  
S. DEVON [3] Uplyme, 6.10 (AK). DORSET [9] Walditch, 15.10 (Parsons, 2009); West Bexington, 13.10 (Eden, 2009).
- 1467** *Ancylosis oblitella* (Dup.) [R][I][V]  
Extralimital/coastal records with a potentially immigrant origin.  
E. KENT [15] Dymchurch, 1.7, 24.8, 27.8 (JEO); Lydd-on-sea, 22.7 (DB); New Romney, 21.8 (SPC). E. SUFFOLK [25] Bawdsey, 30.8 (Deans, 2009); Ipswich, 28.8 (NS, in Dickson, 2009).
- 1475** *Ephestia kuehniella* (Zell.) [In][I]  
N. ABERDEENSHIRE [93] Nr. Collieston, May (indoors), first VC record (P. Doyle, in Langmaid & Young, 2009).

## PAPILIONIDAE

- 1539** *Papilio machaon* (L.) Swallowtail [R][I][In?]  
The following records are all likely to relate to continental race *gorganus* (Fruhs.).  
E. KENT [15] Margate, 4.9, full-grown larva on cultivated carrot on an allotment (Solly *et al.*, 2009).
- 1540** *Iphiclides podalirius* (L.) Scarce Swallowtail [I][In]  
E. SUSSEX [14] Ringmer, 14.5 (M. Biggs per CRP).

## PIERIDAE

- 1548** *Aporia crataegi* (L.) Black-veined White [FR][In/I]  
S. HAMPSHIRE [11] Fareham area, 16.7 (Barker *et al.*, 2009).

## LYCAENIDAE

- 1567** *Lampides boeticus* (L.) Long-tailed Blue [I][In]  
WORCESTERSHIRE [37] Redditch, 10.10, probable importation (S. Whitehouse).

## NYMPHALIDAE

- Unlisted *Vanessa itea* (Fabr.) Yellow Admiral [In]  
E. KENT [15] Newington, 14.8 (PJ); Sittingbourne, 14.8, 17.8 (IDE per PJ); believed to relate to three different individuals (PJ, pers. comm.).
- 1594** *Nymphalis polychloros* (L.) Large Tortoiseshell [I][In?][FR][MC?]  
**Total no. reported: 19**  
**By vice-county: 3 (1); 9 (2); 10 (5); 11 (5); 13 (5); 14 (1).**  
S. DEVON [3] Uplyme, 16.4 (AK per RFM). DORSET [9] Portland, 9.2, 10.2 (Cade, 2009). ISLE OF WIGHT [10] Bonchurch, 1.4 (Knill-Jones, 2009a); Freshwater, 25.2 (Knill-Jones, 2009a); St Helens, 3.4 (Knill-Jones, 2009a); Ventnor, 18.2 (Knill-Jones, 2009a); Whitewell, 12.2 (Knill-Jones, 2009a). S. HAMPSHIRE [11] Lee-on-Solent, 10.2 (Tinling, 2008); New Forest, 10.5 (J. Gulliver, in Barker *et al.*, 2009); three other VC11 records (Barker *et al.*, 2009). W. SUSSEX [13] Crawley, 21.7



(AB per CRP); Lower Beeding, 23.7 (M. Stevens per CRP); Newtimber, 28.7 (NH per CRP); South Lancing, 25.2, indoors (J. Potter per DNB, via CRP); nr. Storrington, 31.3 (ASH per CRP). E. SUSSEX [14] Wilmington, 14.7 (R. Coleman per CRP).

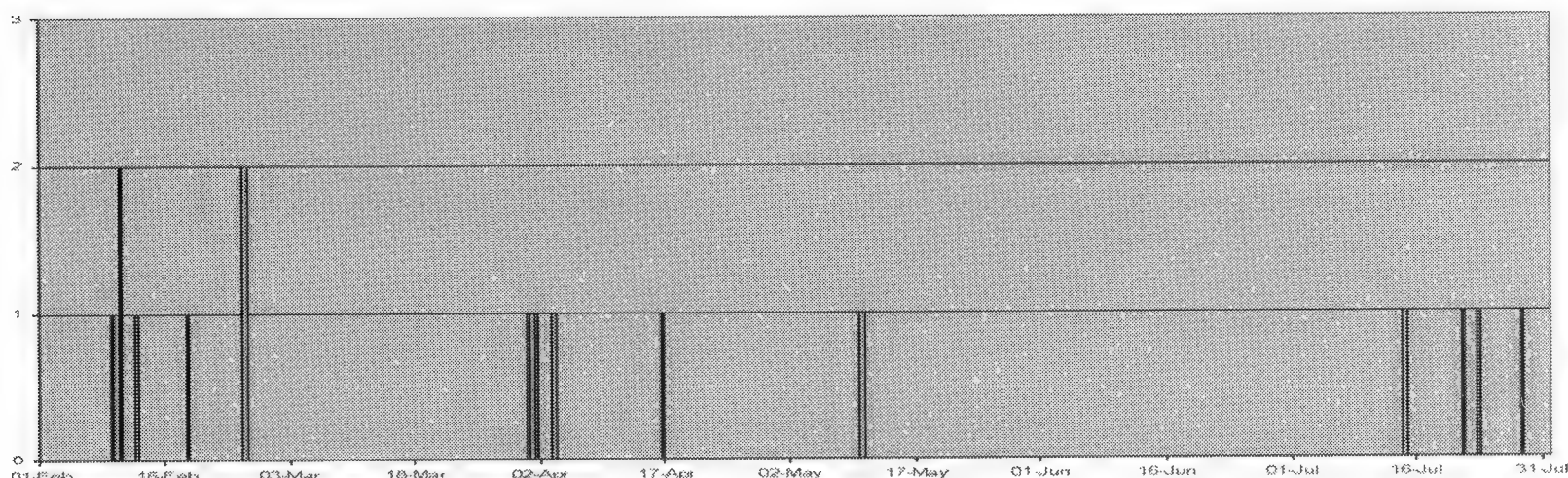


Figure 6. Occurrence times of *Nymphalis polychloros* during 2008 (dated records).

**1596 *Nymphalis antiopa* (L.) Camberwell Beauty [I][In?]**

ISLE OF WIGHT [10] Ventnor Botanic Gardens, 13.2 (Knill-Jones, 2009a), 9.3 (Barker *et al.*, 2009). W. SUSSEX [13] Crawley, 21.7 (VM). E. SUSSEX [14] Newhaven, 18.8 (MS). E. SUFFOLK [25] Nr. Southwold, 22.6 (AC). W. SUTHERLAND [108] Durness, 1.9 (P. Kyle). CAITHNESS [109] Dunnet Head, 3.8 (per ML).

**1603 *Issoria lathonia* (L.) Queen of Spain Fritillary [I][In?]**

W. SUSSEX [13] Chichester, 15.9 (MCP). SURREY [17] Sheepheas, 1.7, 3.7 (per NB).

**DANAIDAE**

**1630 *Danaus plexippus* (L.) Monarch [I][In]**

E. KENT [15] Pegwell, 14.8 (Solly *et al.*, 2009).

**LASIOCAMPIDAE**

**1639 *Dendrolimus pini* (L.) Pine-tree Lappet [I][In/MC]**

E. INVERNESS-SHIRE [96] Kiltarlity, 24.6 (2), 26.6 (3), 27.6 (RK), plus four subsequent undated records in the same area from pheromone traps (D. Barbour per RK).

**SATURNIIDAE**

**Unlisted *Actias selene* (Hb.) Indian Moon Moth [In]**

N. HAMPSHIRE [12] Church Crookham, 22.8, larvae on *Crataegus*, several adults reared (Barker *et al.*, 2009); Odiham, 18.9, adult found by day (Barker *et al.*, 2009). E. SUSSEX [14] Friston Forest, 8.9 (MB).

**DREPANIDAE**

**1646 *Watsonalla binaria* (Hufn.) Oak Hook-tip [R][I/V]**

WICKLOW [H20] Carrigmore, 28.7, new to Ireland (CO, in Walsh *et al.*, in press).

**1649 *Drepana curvatula* (Borkh.) Dusky Hook-tip [I]**

E. SUSSEX [14] Peacehaven, 21.8 (Pratt, 2009). E. KENT [15] Dungeness, 26.7 (DW).

**GEOMETRIDAE**

**1672 *Thalera fimbrialis* (Scop.) Sussex Emerald [R][I][V]**

Records away from the known population in VC15.  
E. KENT [15] Folkestone, 26.7 (AGJB).

**1676 *Cyclophora annularia* (Fabr.) Mocha [R][V/I]**

Coastal records away from suitable breeding habitat that may relate to immigrants.  
E. KENT [15] Lydd, 4.8 (CT); Lydd-on-sea, 17.8 (DB).

**1678 *Cyclophora puppillaria* (Hb.) Blair's Mocha [I]**

W. CORNWALL [1] IOS: Longstone, St Mary's, 22.5, 19.10 (Scott, 2009a). ISLE OF WIGHT [10] Bonchurch, 13.1, 5.3, single larvae found on *Myrtus* spp., the first feral larvae found in Britain (JH);

Bonchurch, 6.5, 21.6, 4.8, 13.8, 18.8, 27.8, 13.9 (JH); Totland, 6.5 (SAK-J). S. HAMPSHIRE [11] Sandy Point, Hayling Island, 23.8, 10.10 (Phillips & Johnson, 2009); West Town, Hayling Island, 27.7 (3), 30.7 (GSAS, in Phillips & Johnson, 2009).

**1678a** *Cyclophora ruficiliaria* (H.-S.) Jersey Mocha [I][MC]

W. CORNWALL [1] Maenporth, 9.5, 11.8 (2), 26.8, 29.8, 9.9 (GD, JHC, BFS, BE). DORSET [9] Chickerell, 2.8 (CP); Walditch, 3.8 (MSP). ISLE OF WIGHT [10] Bonchurch, 5.8, first VC record [erroneously published elsewhere as 4.8] (JH). E. KENT [15] Kingsgate, 10.7, first VC record (FS).

**1688** *Scopula rubiginata* (Hufn.) Tawny Wave [R][I][V]

Records away from known breeding colonies of this species in VC25. Coastal records from VC25 are included but are likely to be associated with resident populations.

S. HAMPSHIRE [11] Lymington, 16.8, second VC record (AH, in Barker *et al.*, 2009). E. KENT [15] Lydd-on-sea, 3.8 (DB); Ramsgate, 15.8 (Solly *et al.*, 2009). E. SUFFOLK [25] Dunwich Heath, 24.7 – 2.8 (6) (Moore, 2009); Landguard, 25.7 (Odin, 2009); Minsmere, 31.7 – 27.8 (4) (Harvey & Higgott, 2009).

**1696** *Idaea ochrata* (Scop.) Bright Wave [R][I][V]

Records away from the known populations in VC15.

W. CORNWALL [1] Sennen, 24.7 (ME).

**1699** *Idaea rusticata* (D. & S.) Least Carpet [R][I][V]

Coastal/extralimital records of possible immigrant examples.

W. CORNWALL [1] Maenporth, 26.7 (Davis, 2009). S. DEVON [3] Exmouth, 8.8 (D. Wall per RFM); Nr. Hope, 16.6 (A. Cheney per RFM). CHESHIRE [58] Higher Poynton, 25-27.7 (SHH). S.E. YORKSHIRE [61] Spurn, 3.8 (Spence, 2009).

**1714** *Idaea degeneraria* (Hb.) Portland Ribbon Wave [R][I][V]

Coastal records away from VC9, or autumn records, that may relate to immigrants, vagrants or undiscovered colonies.

W. CORNWALL [1] Coverack, 11.9 (DCGB). E. CORNWALL [2] Saltash, 12.9 (DT per LACT). S. DEVON [3] Exmouth, 26.4, 19.5, 25.8 (D. Wall per RFM); Teignmouth, 9.5, 23.5 (RFM). DORSET [9] West Bexington, 13.9 (Eden, 2009). ISLE OF WIGHT [10] Bonchurch, 30.8, 13.9 (JH).

**1741** *Costaconvexa polygrammata* (Borkh.) Many-lined [I][FR]

W. NORFOLK [28] Scolt Head NNR, 24.6, 1.7, 2.7 (N. Lawton per JW).

**1785** *Pareulype berberata* (D. & S.) Barberry Carpet [R][V][I]

Extralimital/coastal records away from known colonies/suitable habitat most likely to relate to primary immigrant examples.

E. KENT [15] Greatstone, 8.8 (BBa).

**1786** *Spargania luctuata* (D. & S.) White-banded Carpet [R][V][I]

Coastal records away from suitable breeding habitat that may indicate primary immigration.

E. KENT [15] Greatstone, 7.8 (BBa).

**1815** *Eupithecia abietaria* (Goeze) Cloaked Pug [I][R]

Records not associated with known resident populations.

E. KENT [15] Dungeness, 31.5 [not 2.6 as stated in Clancy, 2009b] (BBa per SPC). S. ESSEX [18] Ingatestone, 1.6 (G. Smith). E. NORFOLK [27] Sheringham, 22.7 (SJ per JW). SELKIRKSHIRE [79] Bowhill, 7.6, first VC record (M. Lindsay, D. Wild per BFS).

**1855a** *Eupithecia ultimaria* Boisd. Channel Islands Pug [R][V][I]

W. CORNWALL [1] IOS: Longstone, St Mary's, 26.7, second Scillies record (Scott, 2009a).

**1874** *Euchoeca nebulata* (Scop.) Dingy Shell [R][I][V]

WICKLOW [H20] Near Newcastle, 25.7, new to Ireland (AT, in Walsh *et al.*, in press).

**1888a** *Stegania trimaculata* (Vill.) Dorset Cream Wave [I]

DORSET [9] Southwell, Portland, 11.5 (MC).



- 1894a** *Chiasmia aestimaria* (Hb.) Tamarisk Peacock [I]  
E. KENT [15] Folkestone, 10.9 (TR per BFS).
- 1896** *Itame brunneata* (Thunb.) Rannoch Looper [R][I]  
Extralimital records all pertaining to the large, pale immigrant form.  
E. KENT [15] Dungeness, 11.6 (PGA); Dymchurch, 7.7 (JEO); Greatstone, 8.6 (JJ); Westgate, 11.6 (TH per IDF).
- 1901** *Cepphis advenaria* (Hb.) Little Thorn [R][V/I]  
Coastal or extralimital records potentially relating to immigrants.  
ISLE OF WIGHT [10] Bonchurch, 21.6 (JH).
- 1911** *Ennomos autumnaria* (Werneb.) Large Thorn [R][I/V]  
Extralimital records or coastal records away from known populations.  
ISLE OF WIGHT [10] Totland, 30.8, second VC record (SAK-J, in Clancy, 2009b). N. ESSEX [19] St Osyth, 21.9 (RWA).
- 1918** *Selenia lunularia* (Hb.) Lunar Thorn [R][I/V]  
Coastal records of possible immigrant specimens, the majority of these away from suitable habitat and/or relating to second-brood examples.  
E. KENT [15] Greatstone, 11.5, 12.5 (JJ); Lydd-on-sea, 9.5 (DB); New Romney, 6.8 (SPC); Pegwell, 6.8 (Solly *et al.*, 2009).

## SPHINGIDAE

- 1973** *Acherontia atropos* (L.) Death's-head Hawk-moth [I][In?]  
S. DEVON [3] Crediton, 24.6 (R. Burston). S. HAMPSHIRE [11] Southbourne, 15.9 (J. Reeve, in Barker *et al.*, 2009). N. ESSEX [19] Rayne, near Braintree, 11.9, larva (adult reared 12.11) (A. Chittock per P. Dawson, via D. Allen). E. NORFOLK [27] Hethersett, 21.9, larva (AS per JW). NORTHAMPTONSHIRE [32] Farthingstone, 16.8 (PE per MJH). CHESHIRE [58] Wallasey, 7.9, found dead (P. Smith per SHH). N.E. YORKSHIRE [62] Marske, 22.9 (PWF per CHF); Nr. Redcar, 24.9 (per DCGB); Wilton, 19.9 (J. Duffie per CHF). SHETLAND ISLANDS [112] Grindahoull, Brae, 20.8 (Anon., 2008a). S.W. YORKSHIRE [63] Sheffield Botanical Gardens, 1-21.9 (6+ locally bred adults in glasshouse) (Naylor, 2009).
- 1986** *Hyles euphorbiae* (L.) Spurge Hawk-moth [I]  
E. SUSSEX [14] Shoreham, 9.6 (P. Green per CRP).
- 1987** *Hyles gallii* (Rott.) Bedstraw Hawk-moth [I][R]  
DORSET [9] Portland Bird Observatory, 30.7 (Cade, 2009). E. SUSSEX [14] Rye Harbour, 17.7 (B. Yates per CRP). NORTHAMPTONSHIRE [32] Glapthorn Cow Pastures, 1.6 (R. Hilton). N. LANCASHIRE [60] Bispham, 1.9, larva on *Fuschia* spp., adult reared (A. Eaves per SMP). MID-W. YORKSHIRE [64] Bellflask, 30.7 (BSM per CHF). SHETLAND ISLANDS [112] Scatness, 27.7, 31.7 (Anon., 2008a); Voehead, Bressay, 3.8 (Anon., 2008a).
- 1990** *Hyles livornica* (Esp.) Striped Hawk-moth [I]  
W. CORNWALL [1] IOS: Longstone, St Mary's, 25.4, 3.5 (Scott, 2009a); Sennen, 21.1 (J. French, in Davey, 2008). S. DEVON [3] Budleigh Salterton, 11.5, by day (RFM); Hennock, 7.5 (BBE per RFM); West Hill, 25.4 (PJB per RFM). ISLE OF WIGHT [10] Bonchurch, 6.5 (JH). KERRY [H2] Killarneay, 25.4 (A. Copland, in Walsh *et al.*, in press).

## NOTODONTIDAE

- 2018** *Clostera anachoreta* (D. & S.) Scarce Chocolate-tip [I][FR][MC?]  
E. KENT [15] Beltinge, 28.7 (BH); Dungeness, 23.7 (PGA); Greatstone, 28.7 (2), 29.7, 30.7 (2), 1.8 (JJ, BBa); Lydd, 27.4 (KR).

## THAUMETOPOEIDAE

- 2022** *Thaumetopoea processionea* (L.) Oak Processionary [I][In]  
Records only given of probable immigrant males, unassociated with introduced resident populations in the London area.  
S. DEVON [3] Exeter, 10.8 (SS).

## LYMANTRIIDAE

2031 *Leucoma salicis* (L.) White Satin [R][I/V]

Extralimital, coastal records of possible immigrants.

ISLE OF WIGHT [10] Totland, 23.7 (SAK-J, in Clancy, 2009b). N. NORTHUMBERLAND [68] Monkseaton, 22.7 (MSH per TJT).

2034 *Lymantria dispar* (L.) Gypsy Moth [I][FR][In]

Not including records associated with introduced resident populations in the London area.

S. HAMPSHIRE [11] Chandler's Ford, 14.7 (BE per TJN). N. HAMPSHIRE [12] Anna Valley, Andover, 21.8 (TJN, in Barker *et al.*, 2009). E. SUSSEX [14] Northiam, 31.7 (AM). E. KENT [15] Dymchurch, 18.8 (JEO); Kingsgate, 6.8 (Solly *et al.*, 2009); St Margaret's at Cliffe, 8.8 (Jarman & Morris, 2009).

## ARCTIIDAE

2041 *Pelosia muscerda* (Hufn.) Dotted Footman [R][I][V]

Records away from suitable habitat in VC27.

S. HAMPSHIRE [11] Ashurst, 26.7 (KG, in Barker *et al.*, 2009); Ladycross, New Forest, 26.7 (DGG *et al.*, in Barker *et al.*, 2009). E. SUSSEX [14] Icklesham, 26.7, 28.7, 2.8 (2) (Hunter, 2009). E. KENT [15] New Romney, 27.7 (AMT). S. ESSEX [18] Woodford Green, 28.7 (RB). BERKSHIRE [22] Owlsmoor, 25.7 (IDM, in Clancy, 2009b). E. SUFFOLK [25] Dunwich Heath, 25.7 (Moore, 2009).

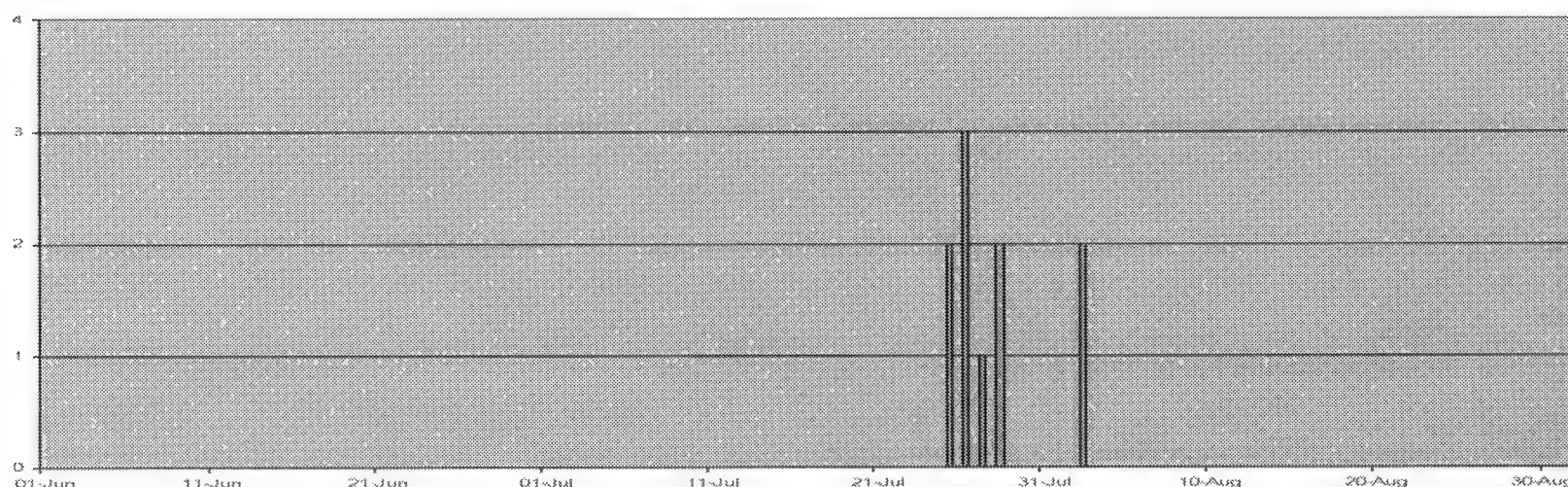


Figure 7. Occurrence times of immigrant *Pelosia muscerda* during 2008.

2043 *Eilema sororcula* (Hufn.) Orange Footman [R][V/I]

Coastal/extralimital records that may relate to immigrants.

W. CORNWALL [1] IOS: Longstone, St Mary's, 31.5 (MWS).

WICKLOW [H20] Cronykeery, 3.5, new to Ireland (AT, in Walsh *et al.*, in press).

2045 *Eilema caniola* (Hb.) Hoary Footman [R][I/V]

Coastal records considered most likely to relate to immigrant examples.

ISLE OF WIGHT [10] Bonchurch, 18.6, 10.9 (JH). S. HAMPSHIRE [11] Ashurst, 22.7 (KG, in Barker *et al.*, 2009). E. KENT [15] Dungeness, 27.7 (KR); Greatstone, 27.8 (JJ); New Romney, 27.7, 8.9 (AMT, KR); Pegwell, 8.8 (Solly *et al.*, 2009).

2046 *Eilema pygmaeola* (Doubl.) Pigmy Footman [R][V/I]

Records away from suitable habitat in VC's 15 & 27.

E. SUFFOLK [25] Bawdsey, 25.7 (2) (Deans, 2009).

2051 *Lithosia quadra* (L.) Four-spotted Footman [R][I]

Resident populations occur widely in the New Forest, south-west England and Dorset, south Wales and southern Ireland, these probably reinforced by immigration. However records from these areas have generally been excluded as their origins are indeterminable and often likely to be associated with local breeding populations.

ISLE OF WIGHT [10] Bonchurch, 24.7, 25.7, 8.8, 9.8, 22.8, 11.9, 12.9, 13.9, 11.10 (JH); Freshwater, 13.7 (DBW per SAK-J); Totland, 25.7 (SAK-J). W. SUSSEX [13] Climping, 17.9 (M. Sennitt per CRP); Ferring, 10.9 (2) (THF per CRP); Haywards Heath, 10.9, 11.9 (P. Lister per CRP); Pulborough, 13.10 (P. Hughes per CRP); Shoreham, 10.9 (P. Green per CRP); Storrington, 12.9 (R. Palmer per CRP); Walberton, September (5), October (1) (JTR per CRP); Warnham, 22.9 (SB per



CRP). E. SUSSEX [14] Bexhill, 10.9 (2), 11.9 (2) (JS, DC per CRP); Brede, 11.9 (4) (DNB per CRP); Crawley Down, 15.10 (JHC per CRP); Friston Forest, 10.9, 16.9, 17.9, 24.9 (MB per CRP); Heathfield, 13.9 (N. Kemp per CRP); Hurst Green, 10.9 (2) (M. Phillips per CRP); Newhaven, 6.10, 12.10 (S. Teale per CRP). E. KENT [15] Folkestone, 25.7, 16.9 (TR, in Clancy 2009b); Greatstone, 3.7 (BBa); Hamstreet, 11.9 (DGG per IDF); Pegwell, 11.9 (Solly *et al.*, 2009); Ramsgate, 9.9, 7.10 (2) (Solly *et al.*, 2009). SURREY [17] Holmbury St Mary, 15.7 (PLH per GAC). HERTFORDSHIRE [20] Hertford, 10.9 (AW per CWP). BERKSHIRE [22] Owlsmoor, 11.10 (IDM, in Clancy, 2009b). E. SUFFOLK [25] Dunwich Heath, 13.9 (Moore, 2009); Minsmere, 11.9 (Harvey & Higgott, 2009). N. LANCASHIRE [60] Mill Houses, 28.7 (2) (PJM per SMP); Silverdale, 27.7 (T. Riden per SMP). ISLE OF MAN [71] No site(s), August (2) (Scott, 2009b).

**2067 *Euplagia quadripunctaria* (Poda) Jersey Tiger [R][I/V]**

Records away from known resident populations in VC's 2, 3, 9, 10, 16 & 17.

S. HAMPSHIRE [11] Fareham, 8.8, 26.8 (Barker *et al.*, 2009); Pennington, 8.8 (RC, in Barker *et al.*, 2009). E. KENT [15] Lydd-on-sea, 6.8 (DB); Pegwell, 1.8 (Solly *et al.*, 2009); St Margaret's at Cliffe, 4.8, 27.8 (Jarman & Morris, 2009).

**2079 *Nola aerugula* (Hb.) Scarce Black Arches [I]**

E. NORFOLK [27] Swannington, 10.5 (J. Welton per BFS).

**NOCTUIDAE**

**2094 *Agrotis crassa* (Hb.) Great Dart [I][FR]**

DORSET [9] Portland Bird Observatory, 15.8 (Cade, 2009).

**2102a *Ochropleura leucogaster* (Frey.) Radford's Flame Shoulder [I]**

DORSET [9] West Bexington, 22.10 (Eden, 2009). ISLE OF WIGHT [10] Bonchurch, 11.9, first VC record [erroneously published elsewhere as 9.9] (JH).

**2107 *Noctua pronuba* (L.) Large Yellow Underwing [R][I]**

Significant coastal influxes likely to indicate large immigrations.

DORSET [9] West Bexington, 24.7 (c.1000) (Eden, 2009).

**2137 *Eurois occulta* (L.) Great Brocade [I][R]**

The following record is thought to relate to the pale immigrant form.

S.E. YORKSHIRE [61] Cottingham, 1.8 (PS per CHF).

**2145 *Discestra trifolii* (Hufn.) Nutmeg [R][I/V]**

Extralimital records of potential immigrants.

SHETLAND ISLANDS [112] Scatness, 27.7 (2), 28.7, 3.8 (Anon., 2008a).

**2183 *Orthosia miniosa* (D. & S.) Blossom Underwing [R][I/V]**

Coastal or extralimital records that may relate to immigrants.

ISLE OF WIGHT [10] Bonchurch, 21.4, 22.4 (JH, in Barker *et al.*, 2009).

**2194 *Mythimna albipuncta* (D. & S.) White-point [R][I/V]**

An established resident within the southern and eastern seaboard counties between VC's 3 & 28, and inland to include VC's 12, 16, 17, 20, 22 & 26; records are only listed from outside this area.

W. CORNWALL [1] Church Cove, The Lizard, 6.9, 7.9 (MT); Maenporth, 7.9 (Davis, 2009).

BUCKINGHAMSHIRE [24] Chorleywood, 27.8 (R. Ellis per MVA); Little Frieth, 19.9, 19.11 (A. & J. Gudge per MVA). S.E. YORKSHIRE [61] Easington, 31.5, 16.7 (MFS per CHF).

**2208 *Mythimna loreyi* (Dup.) Cosmopolitan [I]**

**Total no. reported: 24**

**By vice-county: 1 (13); 9 (1); 10 (2); 14 (4); 15 (3); 60 (1).**

W. CORNWALL [1] Church Cove, The Lizard, 25.8, 30.8, 31.8, 6.9 (2), 7.9 (2), 10.9 (2) (MT); Coverack, 11.9 (DCGB); IOS: Longstone, St Mary's, 10.5, 17.9, 25.9 (MWS). DORSET [9]

Portland Bird Observatory, September (1) (Cade, 2009). ISLE OF WIGHT [10] Bonchurch, 10.9,

13.9 (JH). E. SUSSEX [14] Bexhill, 13.9 (JS per CRP); Friston Forest, 8.9 (MB per CRP); Ringmer,

13.9 (2) (J. Luck per CRP). E. KENT [15] Dungeness, 9.9 (PGA); Lydd-on-sea, 7.9 (DB); New

Romney, 24.9 (AMT). N. LANCASHIRE [60] Heysham, 19.8, first VC record (A. Draper per SMP).

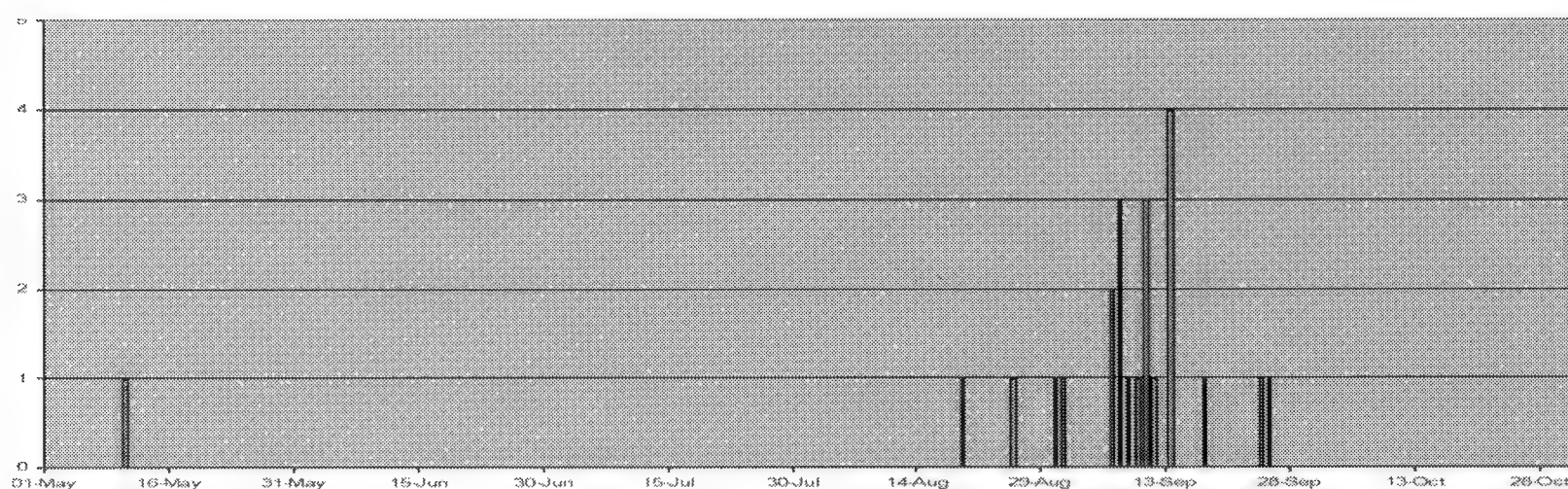
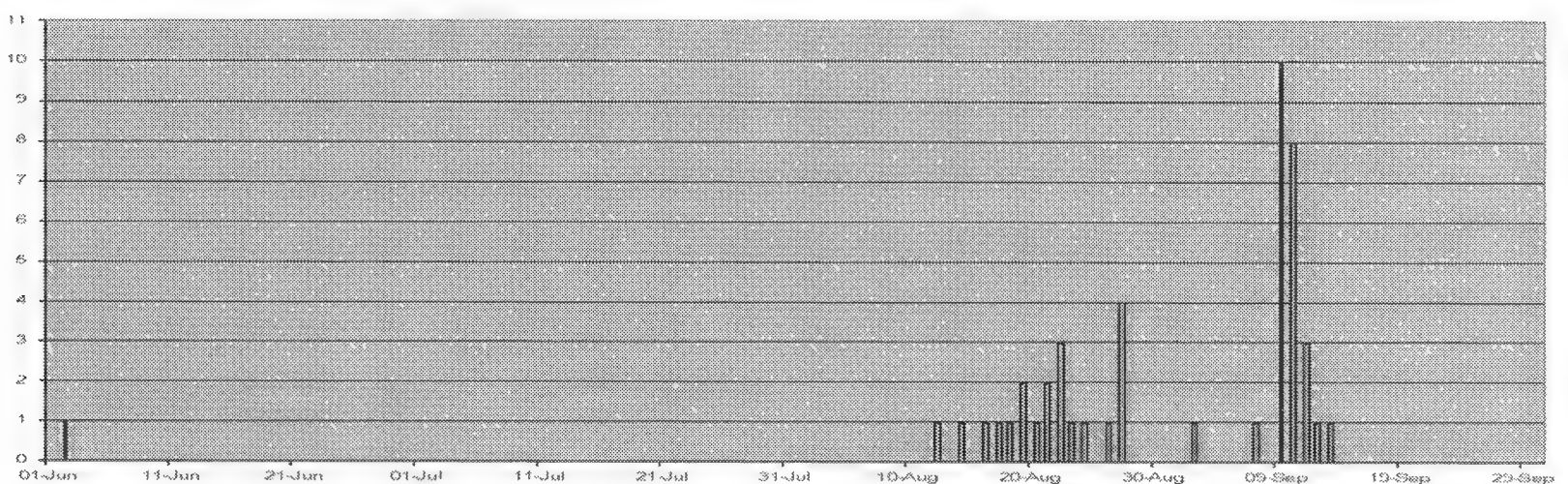


Figure 8. Occurrence times of *Mythimna loreyi* during 2008.

- 2241** *Xylena vetusta* (Hb.) Red Sword-grass [R][I][V]  
Records of a potentially immigrant origin.  
E. KENT [15] Faversham, 15.11 (DWJ per IDF). W. KENT [16] Sevenoaks, 22.4 (PJB per IDF).
- 2248b** *Dryobotodes tenebrosa* (Esp.) Sombre Brocade [I]  
DORSET [9] Durlston, 12.10, new to Britain (Davey, 2009).
- 2251** *Trigonophora flammea* (Esp.) Flame Brocade [I][FR]  
DORSET [9] Cheyne Wears, Portland, 11.10 (Cade, 2009).
- 2261** *Conistra erythrocephala* (D. & S.) Red-headed Chestnut [I]  
E. SUFFOLK [25] Bawdsey, 6.11 (Deans, 2009).
- 2287** *Acronicta auricoma* (D. & S.) Scarce Dagger [I]  
E. KENT [15] New Romney, 14.7 (KR). S.E. YORKSHIRE [61] Spurn, 25.7, first VC record (Spence, 2009).  
[A record of this species from Sevenoaks [16] on 29.7 was not supported by a specimen or photograph and was therefore deemed unacceptable.]
- 2290** *Simyra albovenosa* (Goeze) Reed Dagger [R][I/V]  
Extralimital, coastal records that may refer to immigrants.  
S.E. YORKSHIRE [61] Spurn, 15.8 (Spence, 2009). SHETLAND ISLANDS [112] Scatness, 27.7 (Anon., 2008a); Voehead, Bressay, 28.7 (Anon., 2008a).
- 2292** *Cryphia algae* (Fab.) Tree-lichen Beauty [I][MC]  
Records listed exclude those clearly associated with the established resident populations in VC's 10, 16, 17, 18, 20 & 21; although a number of records listed are more likely to relate to internal range spread rather than primary immigration.  
S. HAMPSHIRE [11] Northney, Hayling Island, 18.7 (Phillips & Johnson, 2009); Southsea, 29.7, 30.7, 5.8 (2) (JRL, IRT); West Town, Hayling Island, 18.8 (GSAS, in Phillips & Johnson, 2009). E. SUSSEX [14] Bexhill, 4.8 (JS per CRP). E. KENT [15] Broadstairs, 24.7 (S. Facey per IDF); Folkestone, 8.8 (AGJB per IDF); Isle of Thanet, July (15), August (21) (Solly *et al.*, 2009); St Margaret's at Cliffe, 27.7, 6.8 (2), 17.8 (2) (A. Morris per NJ). BERKSHIRE [22] Owlsmoor, 25.7 (IDM, in Clancy, 2009b). BUCKINGHAMSHIRE [24] Chorleywood, 25.8, first VC record (R. Ellis per MVA). E. SUFFOLK [25] Bawdsey, 29.7, 1.8, 4.8 (2), 8.8 (2), 11.8, 14.8, 16.8 (2) (MJD per AWP); Hollesley, 10.8, 14.8 (N. Mason per AWP); Ipswich, 11.8 (L. Cutting per AWP); Saxmundham, undated (D. Young per AWP). E. NORFOLK [27] Weybourne, 26.7 (MP per JW).
- 2304** *Trachea atriplicis* (L.) Orache Moth [I][FR]  
ISLE OF WIGHT [10] Bonchurch, 26.7 (JH). S. HAMPSHIRE [11] Lymington, 4.8 (AH, in Barker *et al.*, 2009). E. SUSSEX [14] Cooden, 12.7 (JS); Friston Forest, 10.7 (MB). E. KENT [15] Greatstone, 28.7 (JJ).
- 2097** *Actinotia polyodon* (Clerck) Purple Cloud [I]  
E. SUFFOLK [25] Landguard, 5.8 (Odin, 2009); Westleton, 30.5 (MDH per AWP).



- 2349** *Chortodes fluxa* (Hb.) Mere Wainscot [R][I/V]  
Coastal records away from known resident populations.  
DORSET [9] Powerstock Common, 11.7 (PHS). E. KENT [15] New Romney, 26.7 (AMT per SPC); Ramsgate, 8.7 (Solly *et al.*, 2009).
- 2357** *Amphipoea lucens* (Frey.) Large Ear [R][I]  
Records from southern & eastern England outside the known breeding range.  
E. KENT [15] Lydd-on-sea, 26.8 (DB per SPC, gen. det. RP).
- 2385** *Spodoptera exigua* (Hb.) Small Mottled Willow [I]  
**Total no. immigrants reported: 25**  
**By vice-county: 1 (4); 2 (1); 3 (3); 9 (2); 10 (2); 11 (3); 14 (1); 17 (1); 25 (1); 26 (1); 27 (2); 33 (1); 59 (1); 71 (1); H20 (1).**  
W. CORNWALL [1] Church Cove, 12.10 (Tunmore, 2009); Cury, 31.7, 3.8 (FTJ); IOS: Longstone, St Mary's, 26.7 (Scott, 2009a). E. CORNWALL [2] Donderry, 5.5 (SCM per LACT). S. DEVON [3] Exmouth, 17.8 (D. Wall per RFM); Woodbury Salterton, 23.7, 30.7 (M. Meehan per RFM). DORSET [9] Portland Bird Observatory, May (1), August (1) (Cade, 2009). ISLE OF WIGHT [10] Freshwater, 10.6 (DBW, in Barker *et al.*, 2009); Totland, 7.9 (SAK-J, in Barker *et al.*, 2009). S. HAMPSHIRE [11] Cadnam, 2.9 (Barker *et al.*, 2009); Hedge End, 4.6 (Barker *et al.*, 2009); North Gorley, 24.6 (Barker *et al.*, 2009). E. SUSSEX [14] Northiam, 31.7 (AM per CRP). SURREY [17] Cheam, 29.9 (JK per GAC). E. SUFFOLK [25] Sicklesmere, 3.10 (SD per AWP). W. SUFFOLK [26] Elveden, 12.7 (SD per AWP). E. NORFOLK [27] Hindolveston, 22.9 (JC per JW); Norwich, August (C. Barrett per JW). E. GLOUCESTERSHIRE [33] Elcombe, 9.5 (R. Morris per RGG). S. LANCASHIRE [59] Feniscowles, 30.7 (WCA per SMP). ISLE OF MAN [71] No site(s), May (1) (Scott, 2009b).  
WICKLOW [H20] Cronykeery, 5.5 (AT, in Walsh *et al.*, in press).  
DORSET [9] Gillingham, 8.12, adult found inside a red pepper imported from Holland (Butter, 2009).
- 2386c** *Spodoptera ciliium* (Guen.) Dark Mottled Willow [I]  
W. CORNWALL [1] Cury, The Lizard, 12.10 (FTJ).  
WATERFORD [H6] Brownstown Head, 13.9 [incorrectly dated as 23.9 in Bryant & Walsh, 2009], new to Ireland (Walsh & Bond, 2009).
- 2387a** *Platyperigea kadenii* (Frey.) Clancy's Rustic [MC][I]  
Records from the southern and eastern seaboard counties between VC's 9 & 25 have been excluded as these are thought to be mainly associated with recently established resident populations.  
N. WILTSHIRE [7] Highworth, 13.10, first VC record (S. Nash per AMB).
- 2392a** *Proxenus hospes* (Frey.) Porter's Rustic [I]  
**Total no. reported: 53**  
**By vice-county: 1 (2); 9 (7); 10 (3); 13 (2); 14 (3); 15 (26); 19 (1); 24 (1); 25 (7); 27 (1).**



**Figure 9.** Occurrence times of *Proxenus hospes* during 2008 (dated records).

W. CORNWALL [1] Coverack, 9.9 (DCGB); St Keverne, 2.6 (M. Thompson). DORSET [9] Portland Bird Observatory, May (1), June (1), August (1), September (4) (Cade, 2009). ISLE OF WIGHT [10] Bonchurch, 10.9, 12.9 (JH); Totland, 13.9 (SAK-J). W. SUSSEX [13] Walberton, 12.8, 11.9 (JTR per CRP). E. SUSSEX [14] Cooden, 17.8 (JS per CRP); Peacehaven, 14.8, 16.8 (Pratt,



# SOCIETY MATTERS



## THE HAMMOND AWARD

Members are reminded that articles published in the *AES Bulletin* are considered for this award, which was initiated in March 1982 in memory of Cyril O. Hammond (of Colyer and Hammond fame). The Award is given for the best contribution to the *AES Bulletin* on the theme of British Insects, in any one year. The winner will receive a Certificate and £100.

## NEW AFFILIATION

The AES is now affiliated to the Invicta Arachnid Club (website: [www.invicta-arachnid-club.org.uk](http://www.invicta-arachnid-club.org.uk)) which is based in Kent.

## 'BIG SOCIETY'

We welcome members who would be able to help promote the Society at events.

We will need more subscribers to the *Entomologist's Record* if we are to continue to develop the journal without increasing subscription rates, so your help in promoting the *Record* to friends and institutions would be very welcome.

## WANTS & EXCHANGE NEWSLETTER – UPDATE

Progress has been made with setting up the new AES Newsletter, which we hope to launch by the time the May issue of this journal is published.

The Newsletter is designed to be sent to members via email. Members who do not have an email address will be able to receive a printed version of the Newsletter by post. This new arrangement will allow the Newsletter to contain information additional to that contained in the traditional Wants & Exchange List, and it will be more timely. Full details on how to sign up for the Newsletter will be made available when the time comes.

The Newsletter is the first of two projects aimed at improving communication within the Society and between members. The second project will explore the possibility of setting up Special Interest Groups, but we will not have the resources to explore and progress that initiative until after the Newsletter is firmly up and running.

## NOTICE OF AES ANNUAL GENERAL MEETING

This year's AGM will take place at 12:00 midday on 30th April at the Butterfly World Project, Miriam Lane, Off Noke Lane, Chiswell Green, Herts AL2 3NY, immediately prior to our Members' Day at the same venue. (Miriam Lane is named after the entomologist Dame Miriam Rothschild, and the Butterfly World Project is within walking distance of the rooms of the Royal Entomological Society, of which she was a past president).

Our President, Dr Robin Wootton, will step down at this AGM. Nominations are invited for President of the Society for the period 2011-2012.

The following Council members will retire by rotation: David Humphries, Dafydd Lewis and Peter May. Dafydd Lewis and Peter May have expressed their willingness to remain on Council if duly nominated and elected. Paul Sokoloff (AES Custodial Trustee) has also expressed his willingness to be nominated in addition as a full member of Council.

Council members standing for election / re-election or as Officers of the Society at the 2010 AGM are therefore as follows: Secretary: Dafydd Lewis; Treasurer: Peter May; Conservation Secretary: David Lonsdale; Bulletin Editor: Phil Wilkins; General Editor: Jacqueline Ruffle; Exhibition Secretary: Wayne Jarvis; Advertising Secretary: Peter Hodge; ICN Editor: David Lonsdale; Wants & Exchange Editor: Peter May; Youth Secretary: Kieren Pitts; Bug Club Magazine editors: Dafydd Lewis, Kieren Pitts; Webmaster: Kieren Pitts; Council Member: Paul Sokoloff.

Members of Council are also Charitable Trustees of the Society. There are currently a number of trustee vacancies, and the role of Habitat Conservation Officer is vacant. Nominations for Council, including anyone wishing to contest any of the above posts, are invited before or at the AGM. Nominations should be submitted by two members with the prior consent of the nominee.

## **MEMBERSHIP RENEWALS**

**All members who subscribed to the *Record* in 2010 will receive this issue, Part I (2011).**

**If you are reading this, please check that you have renewed your subscription (renewal slips were sent out with Part 6 (2010)).**

**If you have not renewed, your database entry will expire and you will not receive any further issues.**

## **DATA PROTECTION ACT**

All members should please note that all personal information supplied to the Society is treated in accord with the requirements of current data protection legislation and will be used only for the purposes of administering the Society. We will not divulge personal information to any third party unless legally obliged to do so. It is technically possible for us to generate membership lists but there are no plans to do so during this membership year.



# AES EVENTS IN THE NEW YEAR

**26th February 2011**

## **Young Entomologists' Day @ Oxford University**

Oxford University Museum of Natural History, Parks Road, Oxford OX1 3PW.

11:00 – 4:00.

There will be three aspects to this event:

**1. Presentations by young entomologists:** Children between the ages of 4 and 18 are invited to bring exhibits they are willing to talk about to fellow members – or they can just give a brief talk, with or without slides. Last year, many of the children gave PowerPoint presentations – including five year old Magnus McLeod.

The children's talks will be preceded by a presentation by Dr Erica McAllister from the Natural History Museum, London, who will also be one of the expert judges. Prizes will be awarded for the best presentations, and these will include signed prints presented by Richard Lewington. Full details are available on the AES website [www.amentsoc.org](http://www.amentsoc.org) or from the AES Secretary ([secretary@amentsoc.org](mailto:secretary@amentsoc.org)).

## **2. Tours of the Hope Entomological Collections**

These will be conducted by the Museum's Curator of Entomology, Darren Mann.

## **3. Information on other organisations**

Other invited societies and initiatives will be in attendance.

There is no charge for admission but please complete a booking form as soon as possible if you plan to attend (the lecture theatre was almost full at this event last year, so early booking is advised).

## **Saturday 30th April 2011: AES Members' Day & AGM**

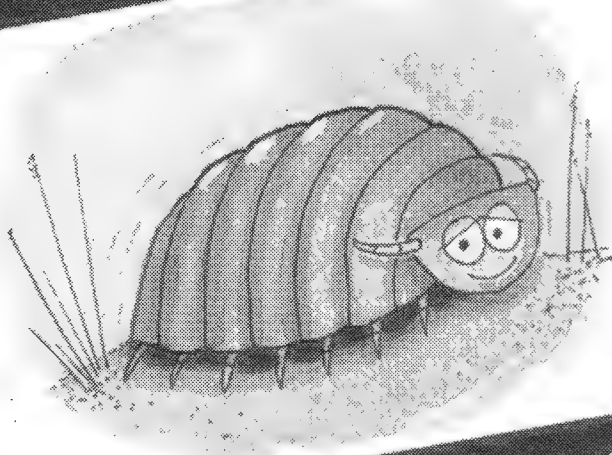
Our Members' Day will take place at Butterfly World near St Albans, Hertfordshire. This new venue is next door to the Royal Entomological Society HQ.

Further details will be provided to members closer to the time.

## **OTHER EVENTS**

AES events are organised on a rolling basis (i.e. we have no fixed annual calendar of events) and are publicised in good time to members through our journals and on our main website [www.amentsoc.org](http://www.amentsoc.org).

**Woody the Woodlouse**  
*who forgot how to roll  
into a ball*  
by Sonia Copeland Bloom



*Tales & Truths  
about Garden Minibeasts*

## Just Published!

The second book in the  
series *Truths and Tales  
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*Includes exciting  
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**Members' price £3.50 post free**

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If your child enjoyed the first book in this series — *Basil the Beetle's Scary Adventure* — they will love to read about the escapades of Woody, the little woodlouse who forgot how to roll into a ball, and his friend Spinny the Spider!

Both books are supplied signed by the author in this first edition.

They are designed as 'faction' books, and consist of an engaging story about a minibeast supplemented by factual sections:

Information about insects, especially beetles or woodlice

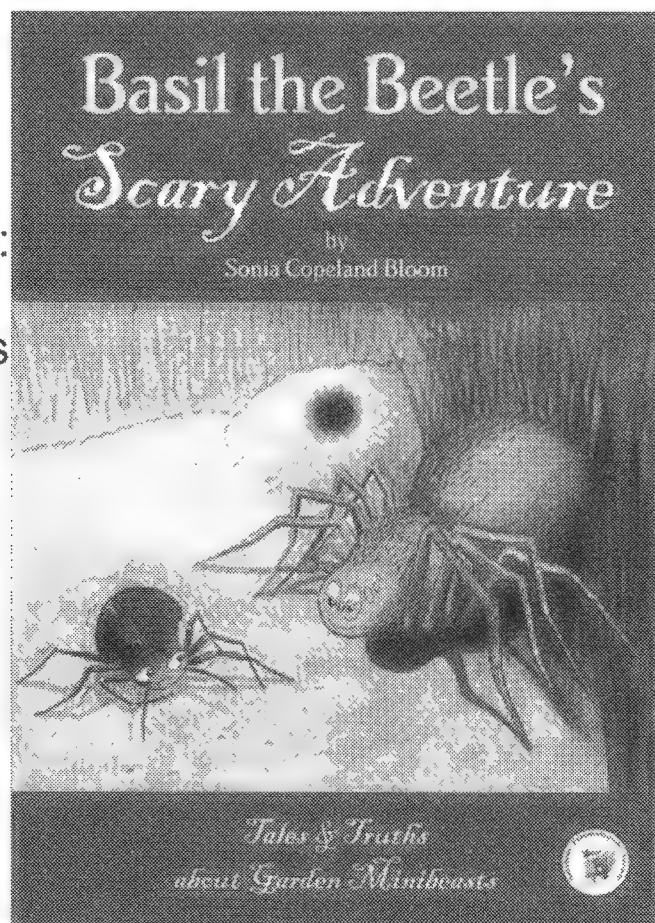
How to look after them as pets

A glossary of terms that also serves as an introduction to entomology

Suggestions as to how to take your interest in minibeasts further

### HOW TO ORDER

To order one or both of these books, just send a cheque for the correct amount to: **Tales and Truths, PO Box 8774, London SW7 5ZG**  
Or visit the AES online shop <http://shop.amentsoc.org>



2009). E. KENT [15] Beltinge, 9.9 (BH); Dungeness, 27.8, 9.9 (KR); Dymchurch, 18.8, 26.8, 7.9, 9.9 (3), 11.9 (JEO); Folkestone, 10.9 (5) (TR, in Clancy, 2009b); Greatstone, 21.8, 22.8 (2), 23.8, 27.8 (2), 9.9, 10.9 (JJ, BBa); Lydd-on-sea, 20.8, 10.9 (DB); New Romney, 11.9 (KR). N. ESSEX [19] Magdalen Laver, 21.8 (TG). BUCKINGHAMSHIRE [24] Chorleywood, 2.9, first VC record (R. Ellis per MVA). E. SUFFOLK [25] Bawdsey, 19.8, 27.8 (Deans, 2009); Landguard, 9.9 (3) (NO per AWP); Rushmere St Andrew, 19.8, 22.8 (JBH per BFS). E. NORFOLK [27] Salthouse, 24.8, first VC record (Williams, 2009).

**Unlisted *Elaphria agrotina* (Guen.) Agrotina Midget [In]**

W. KENT [16] Grain, 1.7, new to Britain (AGJB).

**2396a *Galgula partita* (Guen.) Wedgeling [I?][In]**

W. CORNWALL [1] Marazion, 6/7.10, first British record of a probable immigrant example of this species (D. Walbridge per MT).

**2400 *Helicoverpa armigera* (Hb.) Scarce Bordered Straw [I][In]**

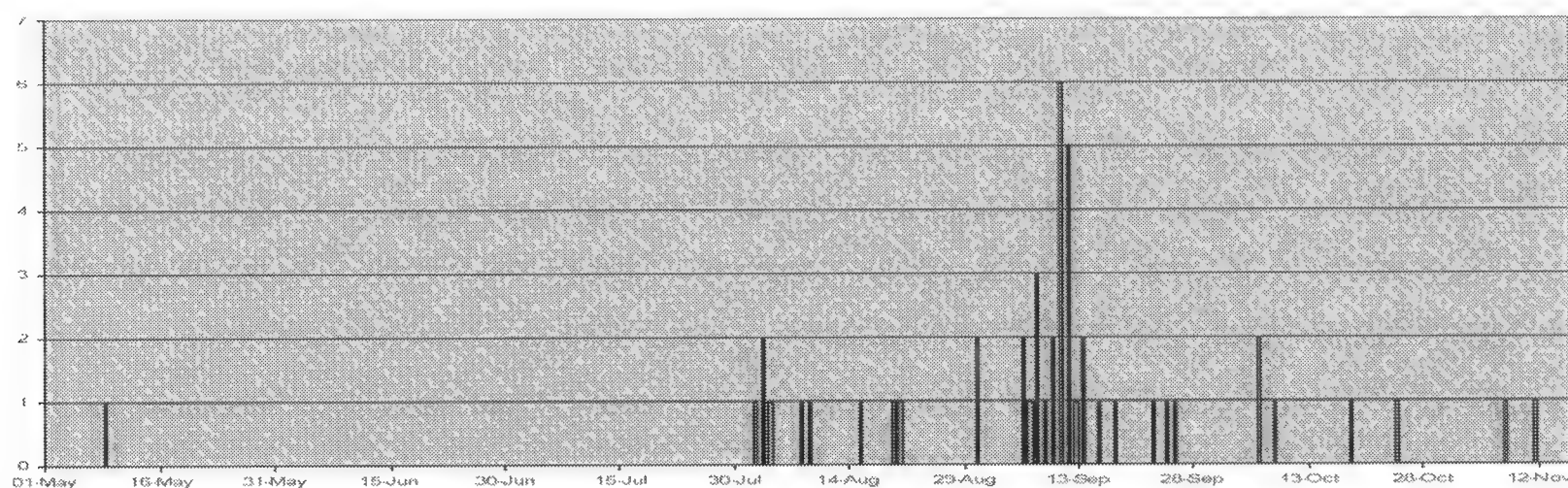
**Total no. immigrant adults reported: 54**

**By vice-county: 1 (13); 2 (3); 3 (1); 5 (1); 9 (6); 10 (4); 13 (4); 14 (1); 15 (9); 18 (1); 25 (2); 26 (1); 27 (5); 28 (1); 32 (1); 36 (1).**

W. CORNWALL [1] Church Cove, 2.8, 6.9 (Tunmore, 2009); Coverack, 10.9 (DCGB); Cury, 7.9 (FTJ); IOS: Longstone, St Mary's, 1.8, 8.8, 22.9 (MWS); Maenporth, 2.8, 3.8, 19.8, 30.8, 5.9 (2) (GD). E. CORNWALL [2] Millook Woods, 30.8 (GD per LACT); Plaidy, Looe, 7.9 (RPS per LACT); Saltash, 24.9 (DT per LACT). S. DEVON [3] Nr. Hope, 24.10 (A. Cheney per RFM); Newton Abbot, 19.8, larva (BPH per RFM). S. SOMERSET [5] Brompton Ralph, 8.5 (A. Barton per MY). DORSET [9] Portland Bird Observatory, August (1), September (3) (Cade, 2009); West Bexington, August (1), September (1) (Eden, 2009). ISLE OF WIGHT [10] Bonchurch, 13.9, 8.10, 7.11 (JH, in Barker *et al.*, 2009); Totland, 15.9 (SAK-J). W. SUSSEX [13] Ferring, 10.9 (3) (THF per CRP); Findon, 11.11 (MAS per CRP). E. SUSSEX [14] Peacehaven, 7.9 (Pratt, 2009). E. KENT [15] Beltinge, 8.9 (BH); Greatstone, 18.10 (BBa); Kingsdown, 17.9 (NJ); Kingsgate, 6.10 (FS per IDF); Lydd-on-sea, 10.9 (DB); Pegwell, 9.9, 11.9 (2), 6.10 (FS per IDF). S. ESSEX [18] Bradwell-on-sea, 9.9 (Dewick, 2009). E. SUFFOLK [25] Bawdsey, 13.9 (MJD per AWP); Dunwich Heath, August (1) (Moore, 2009). W. SUFFOLK [26] Nowton, 25.9 (RFE per AWP). E. NORFOLK [27] Overstrand, 12.9 (G. Bond per JW); Sheringham, 10.9, 11.9 (MMC per JW); Weybourne, 15.8, 11.9 (MP per JW). W. NORFOLK [28] Holme, 20.8 (JA per JW). NORTHAMPTONSHIRE [32] Easton Hornstocks, 11.9 (PC, MJH, KT). HEREFORDSHIRE [36] Bodenham, 7.8 (PBr).

N. HAMPSHIRE [12] Basingstoke, 7.5, two larvae found on raspberries imported from Spain (AHD, in Barker *et al.*, 2009 & per TJN). BUCKINGHAMSHIRE [24] Walter's Ash, 15.5, adult indoors (N. Fletcher per MVA). FIFESHIRE [85] Lundin Links, Fife, 2.2, larva found indoors; adult reared 30.3 (per GC & KB, via DD).

LANCASHIRE [60] Mill Houses, 23.5 (G. Jones, A. Shaw per SMP). S.E. YORKSHIRE [61] Easington, 7.8 (MFS per CHF).



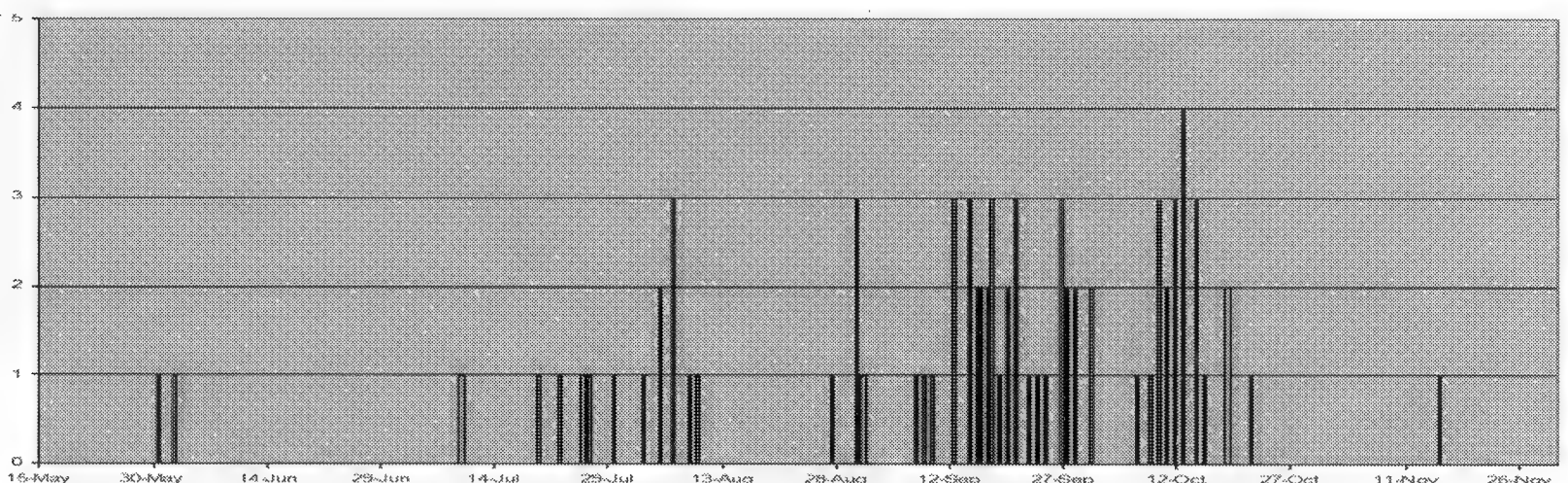
**Figure 10.** Occurrence times of wild-caught adult *Helicoverpa armigera* during 2008 (dated records).

**2403 *Heliothis peltigera* (D. & S.) Bordered Straw [I]**

W. CORNWALL [1] Maenporth, 10.5 (GD). ISLE OF WIGHT [10] Freshwater, 24.6 (DBW). E. KENT [15] Ramsgate, 5.8 (PM per IDF). W. NORFOLK [28] Welney, 11.7 (LM per JW). N.



- 2408** *Eublemma parva* (Hb.) **Small Marbled [I]**  
HERTFORDSHIRE [20] Bishops Stortford, 28.7 (JF per CWP).
- 2413** *Deltote bankiana* (Fab.) **Silver Barred [R][I/V]**  
Coastal records away from known populations.  
E. KENT [15] Kingsgate, 1.7 (Solly *et al.*, 2009).
- 2415** *Acontia lucida* (Hufn.) **Pale Shoulder [I]**  
W. CORNWALL [1] IOS: Longstone, St Mary's, 8.8 (Scott, 2009a).
- 2428** *Chrysodeixis chalcites* (Esp.) **Golden Twin-spot [I][In]**  
**Total no. reported: 10**  
**By vice-county: 6 (1); 15 (1); 19 (1); 25 (7).**  
N. SOMERSET [6] Knole, 27.11 (J. Swales per JMc, via MY). E. KENT [15] Pegwell, 8.10 (Solly *et al.*, 2009). N. ESSEX [19] Clacton-on-sea, 16.9 (G. Swain). E. SUFFOLK [25] Bawdsey, 13.9, 18.9, 22.9, 30.9 (Deans, 2009); Dunwich Heath, 17.9, 18.9 (Moore, 2009); Landguard, 28.9 (Odin, 2009).
- 2430** *Ctenoplusia limbirena* (Guen.) **Scar Bank Gem [I]**  
W. CORNWALL [1] Church Cove, The Lizard, 5.9 (MT). DORSET [9] West Bexington, 10.10 (RE). E. KENT [15] Lydd, 19.6 (KR).
- 2433** *Trysanoplusia orichalcea* (Frey.) **Slender Burnished Brass [I][In]**  
W. CORNWALL [1] IOS: St Mary's, 12.10 (Scott, 2009a). E. CORNWALL [2] Veryan, 9.10 (PK).
- 2436** *Macdunnoughia confusa* (Steph.) **Dewick's Plusia [I][In][MC?]**  
**Total no. reported: 79**  
**By vice-county: 1 (1); 3 (7); 9 (6); 10 (4); 11 (8); 13 (13); 14 (11); 15 (16); 17 (2); 18 (4); 19 (1); 25 (5); 28 (1).**  
W. CORNWALL [1] IOS: St Mary's, 8.10 (Scott, 2009a). S. DEVON [3] Dawlish, 26.7 (PF per RFM); Exeter, 26.9, 11.10 (2) (SS, GJJ per RFM); Ipplepen, 22.9, by day (AW per RFM); Rockbeare, 30.8 (MK per RFM); Uplyme, 12.10 (AK per RFM). DORSET [9] Durlston, 18.10 (MJD *et al.*); Portland Bird Observatory, 25.7, 12.9 (Cade, 2009); Swanage, 30.9 (E. Pratt); West Bexington, 15.9 (Eden, 2009); Winspit, 22.7 (PAD per BFS). ISLE OF WIGHT [10] Bonchurch, 19.7, 30.8, 9.10 (JH); Freshwater, 14.10 (D. Cooke, in Barker *et al.*, 2009). S. HAMPSHIRE [11] Ashurst, 6.10 (KG, in Barker *et al.*, 2009); Chandler's Ford, 18.11 (dead indoors) (P. Evans, in Barker *et al.*, 2009); Cosham, 17.9 (G. Farwell, in Barker *et al.*, 2009); Fareham, 31.8 (KW, in Barker *et al.*, 2009); Hedge End, 10.10 (D. Hamilton, in Barker *et al.*, 2009); Langstone, 11.10 (JN, in Phillips & Johnson, 2009); Southsea, 19.9, 27.9 (JRL, IRT, in Barker *et al.*, 2009). W. SUSSEX [13] Chichester, 4.8, 8.8, 12.9 (MCP per CRP); Pagham, 6.8 (2), 9.10, 12.10, 18.10 (IL per CRP); Shoreham, 30.9 (P. Green per CRP); Walberton, 9.7, 16.9, mid-October, 15.11 (JTR per CRP). E. SUSSEX [14] Friston Forest, 17.9 (MB per CRP); Hurst Green, 1.6 (M. Phillips per CRP); Icklesham, 14.9, 18.9, 26.9, 28.9 (Hunter, 2009); Peacehaven, 14.9, 24.9 (Pratt, 2009); Ringmer, 30.8 (J. Luck per CRP); Rye Harbour, 9.8, 14.9 (CB per CRP). E. KENT [15] Beltinge, 20.9, 9.10, 12.10 (2) (BH); Dungeness, 6.8, 27.9 (DW); Dymchurch, 7.9 (JEO); Faversham, 28.9, 15.10 (DWJ



**Figure 11.** Occurrence times of live *Macdunnoughia confusa* adults during 2008 (dated records).

per IDF); Greatstone, 30.5, 27.8 (JJ, BBa); Lydd, 4.8 (KR); Pegwell, 17.9, 19.9, 14.10 (Solly *et al.*, 2009); Ramsgate, 15.9 (Solly *et al.*, 2009). SURREY [17] Reigate, 29.7, 2.8 (RWLG per GAC). S. ESSEX [18] Bradwell-on-sea, 8.9, 9.9, 16.9, 20.9 (Dewick, 2009). N. ESSEX [19] St Osyth, September, found dead (RWA). E. SUFFOLK [25] Bawdsey, 12.9 (Deans, 2009); Blythburgh, 20.9, 10.10 (DEW per BFS); Dunwich Heath, 26.9 (Moore, 2009); Eye, 23.9 (PK per AWP). W. NORFOLK [28] Yaxham, 21.10 (S. Rix per JW).

**2451 *Catocala fraxini* (L.) Clifden Nonpareil [I][FR][MC?]**

**Total no. reported: 14**

**By vice-county: 9 (1); 10 (2); 11 (1); 14 (9); 16 (1).**

DORSET [9] East Lulworth, 7.9 (Hill, 2008). ISLE OF WIGHT [10] Niton, 24.9 (AGJB); Totland, 15.9 [not Bonchurch as stated in Knill-Jones, 2009a] (SAK-J). S. HAMPSHIRE [11] South Brockenhurst, 6.9 (RBW, in Barker *et al.*, 2009). E. SUSSEX [14] Brede, 26.9 (DNB per CRP); Hurst Green, 27.9, 28.9, 29.9 (M. Phillips); Icklesham, 17.10 (Hunter, 2009); Northiam, 25.9 (DNB per CRP); Peasmarsh, 15.9, 28.9 (MFB per CRP); St Leonards, 17.9, by day (C. Ball per CRP). W. KENT [16] Petts Wood, 19.8, by day (IDF).

**2453 *Catocala electa* (View.) Rosy Underwing [I]**

E. KENT [15] Dungeness, 21.8, by day (SJB *et al.*).

**2455 *Catocala sponsa* (L.) Dark Crimson Underwing [R][I]**

Records away from breeding populations in and around the New Forest that may relate to immigrant examples.

ISLE OF WIGHT [10] Freshwater, 24.7 (DBW, in Knill-Jones, 2009a). S. HAMPSHIRE [11] Portsmouth, 26.7 (M. Wearing, in Barker *et al.*, 2009). N. HAMPSHIRE [12] Upper Inhams Copse, near Pamber, 16.8 (GJD, in Barker *et al.*, 2009). N. ESSEX [19] Frinton-on-sea, 25.8 (B. Lock).

**2456 *Minucia lunaris* (D. & S.) Lunar Double-stripe [I][FR]**

E. KENT [15] Kingsdown, 3.6 (Jarman & Morris, 2009).

**2296 *Tathorhynchus exsiccata* (Led.) Levant Blackneck [I]**

W. CORNWALL [1] Church Cove, The Lizard, 28.1 (MT).

**2475 *Parascotia fuliginaria* (L.) Waved Black [R][I/V]**

Coastal/extralimital records of possible immigrant examples.

S. HAMPSHIRE [11] Sandy Point, Hayling Island, 26.7 (Phillips & Johnson, 2009). E. KENT [15] Kingsdown, 30.8 (Jarman & Morris, 2009); New Romney, 4.8 (CR per SPC). N. ESSEX [19] Layer-de-la-Haye, 17.7 (D. Allen).

**2476 *Hypena crassalis* (Fab.) Beautiful Snout [R][V/I]**

Coastal/extralimital records of possible immigrant examples.

E. KENT [15] Dumpton, 23.6 (Solly *et al.*, 2009). N. ESSEX [19] Arlesford, 15.7, first VC record (D. Barnard).

**2478 *Hypena obsitalis* (Hb.) Bloxworth Snout [R][V/I]**

Records away from known breeding populations in VC's 1, 2, 3, 9 & 10.

W. SUSSEX [13] Pulborough, 12.12 (G. Lyons per CRP). E. KENT [15] Folkestone, 14.11 (P. Howe).

**2488a *Pechipogo plumigeralis* (Hb.) Plumed fan-foot [I][MC]**

E. KENT [15] Beltinge, 16.7 (BH); Dungeness, 11.9 (DW); Pegwell, 24.7, 28.8 (Solly *et al.*, 2009).

## ANNEX 2: SELECTED RECORDS OF COMMONER MIGRANT SPECIES IN 2008

Numerical summaries are not provided for the migrant butterfly species listed in Annex 2, or for *Autographa gamma*, due to the generalised, non-specific nature (or absence) of reports of these species from many sites. Significant records, site

totals and general comments have been given for these species, and county summaries of the diurnal records of the migrant butterflies & *Macroglossum stellatarum* are provided where these have been made available in spreadsheet format. The overall totals and numbers given in the tables for species often recorded diurnally such as *Plutella xylostella* and *Nomophila noctuella* refer to light-trap records, as only records of this nature were recorded and reported systematically. However, figures provided for the mainly diurnal *Macroglossum stellatarum* represent all reported records.

It has not been possible to allocate months of occurrence to all the records of nocturnal Annex 2 species reported. It is therefore the case that the total given for the number of reported records is based on the figures given in the distributional table, this generally being greater than the sum of the monthly totals given within the lower table. Only records of adults are included in the tables & numerical totals and, whilst it is likely that these will not be comprehensive for the commoner species, the geographical and chronological occurrence patterns presented should closely reflect the overall picture for each species.

#### Key to the symbols used within the distribution tables:

**SW** – South-west England (VC's 1-4).

**CS** – Central southern England (coastal) (VC's 5, 6, 9-11, 13).

**SE** – South-east England (coastal) (VC's 14-16, 18, 19).

**EA** – East Anglia & Lincolnshire (VC's 25-28, 53, 54).

**SI** – Southern England (inland) (VC's 7, 8, 12, 17, 20-24, 29-34).

**W** – Wales (VC's 35, 41-52).

**CE** – Central England (inland) (VC's 36-40, 53-58).

**NE** – North-east England (VC's 61, 62, 66-68).

**NW** – North-west England & the Isle of Man (VC's 59, 60, 63-65, 69-71).

**S** – Scotland (VC's 72-112).

**I** – Ireland (VC's H1-H40).

#### YPONOMEUTIDAE

0464 *Plutella xylostella* (L.) [R][I]

Total no. reported (light-trap records only): 3977

Distribution of records:

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
213	846	1262	471	306	58	-	454	242	30	95

Months of occurrence:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2	-	1	53	489	557	1640	664	306	19	45	-

Selected annual totals from fixed traps: DORSET [9] Portland Bird Observatory – 242 (Cade, 2009). E. KENT [15] Dungeness area – 131 at three sites (Clancy, 2009a); Isle of Thanet – 965 at



five sites (Solly *et al.*, 2009). E. SUFFOLK [25] Bawdsey – 150 (Deans, 2009); Landguard – 220 (Odin, 2009). S.E. YORKSHIRE [61] Spurn – 160 (Spence, 2009).

**Earliest dates:** ISLE OF WIGHT [10] Bonchurch, 24.3 (JH). E. KENT [15] Pegwell, 6.1 (FS per IDF). BERKSHIRE [22] Tilehurst, 20.1 (J. Haseler per MCH).

**Latest dates:** W. CORNWALL [1] IOS: Longstone, St Mary's, 20.11 (MWS). S. HAMPSHIRE [11] Southsea, 20.11 (IRT, in Barker *et al.*, 2009).

## PYRALIDAE

### 1395 *Udea ferrugalis* (Hb.) [I][MC]

Records of this species from the Isles of Scilly are summarised in a separate section below but have otherwise been excluded from this account. This is due to the presence of a resident population of *U. ferrugalis* on the Scillies, and the records of large numbers of locally-bred adults being indistinguishable from records of an immigrant origin. This species may also be resident elsewhere in south-west England but the numbers recorded do not approach those recorded annually throughout the season on the Scillies.

**Total no. reported: 3292**

**Distribution of records:**

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
721	2233	170	47	4	-	-	8	24	-	85

**Months of occurrence:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
6	5	1	6	104	61	252	555	502	1395	299	-

**Selected annual totals from fixed traps:** W. CORNWALL [1] The Lizard – 335 at three sites (Tunmore, 2009). DORSET [9] Portland Bird Observatory – 1579 (Cade, 2009). ISLE OF WIGHT [10] Bonchurch – 250 (JH).

**Earliest dates:** W. CORNWALL [1] Church Cove, The Lizard, 23.1 (2) (MT, in Davey, 2008). DORSET [9] Portland Bird Observatory, 23.1 (MC, in Davey, 2008).

**Most northerly records:** S. NORTHUMBERLAND [67] Kielder, 22.6 (DK per TJT).

**Selected inland VC records/summaries:** N. HAMPSHIRE [12] Chilbolton, 7.9 (GCE, in Barker *et al.*, 2009); Sherborne St John, 7.9 (NM, in Barker *et al.*, 2009). HERTFORDSHIRE [20] Royston, 10.9 (JEC per CWP). W. GLOUCESTERSHIRE [33] Haresfield, 15.8 (R. Pearce per RGG). CHESHIRE [58] Shavington, 24.8 (R. Benson per SHH). S. NORTHUMBERLAND [67] Kielder, 22.6 (DK per TJT).

**Scilly Isles [1] summary:** Longstone, St Mary's - 2008 annual total: 6208; monthly totals: Jan (11), Feb (18), Mar (6), Apr (45), May (478), Jun (115), Jul (991), Aug (1433), Sep (1042), Oct (1246), Nov (765), Dec (58) (Scott, 2009a); peak nightly counts: 1.8 (146), 5.10 (160), 12.10 (181), 26.11 (120) (MWS).

### 1398 *Nomophila noctuella* (D. & S.) [I]

**Total no. reported (light-trap records only): 985**

**Distribution of records:**

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
364	350	124	45	19	20	-	25	15	2	21

**Months of occurrence:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	4	-	11	55	20	99	337	339	61	4	-

**Selected annual totals from fixed traps:** W. CORNWALL [1] IOS: Longstone, St Mary's – 111 (Scott, 2008a); Maenporth – 51 (Davis, 2009). DORSET [9] Portland Bird Observatory – 97 (Cade, 2009); West Bexington – 56 (Eden, 2009). E. KENT [15] Dungeness area – 58 at twelve sites (Clancy, 2009a).

**Earliest dates:** W. CORNWALL [1] IOS: St Agnes, 9.2 (MEH, in Davey, 2008); IOS: Longstone, St Mary's, 19.2, 23.2 (MWS). DORSET [9] Portland Bird Observatory, 28.1 (MC, in Davey, 2008). WATERFORD [H6] Glendaloughin, 9.2 (S. MacAmhalghaidh).

**Latest dates:** E. KENT [15] Pegwell, 14.11 (FS per IDF). E. SUFFOLK [25] Bawdsey, November (2) (Deans, 2009). W. NORFOLK [28] Blakeney Point, 4.11 (SJ per JW).

**Most northerly records:** FIFESHIRE [85] Kinghorn, 31.8 (B. Little per DD); Tentsmuir, 19.9 (DD).

**Selected inland VC records/summaries:** N. HAMPSHIRE [12] VC date range: 8.5, 28.6 – 9.9, 12.10; VC total: 17 (Barker *et al.*, 2009; per TJN). BERKSHIRE [22] Mortimer West End, 27.8 – 30.8 (3) (GJD, in Barker *et al.*, 2009). E. GLOUCESTERSHIRE [33] Hempsted, 7.9 (GRA per RGG).

## PIERIDAE

### 1545 *Colias croceus* (Geoff.) Clouded Yellow [I][MC]

**Selected annual totals:** W. CORNWALL [1] IOS: Longstone, St Mary's – 99 (Scott, 2009a).

**VC/County summaries:** HAMPSHIRE [10/11/12] 3.4 – 22.10, 33 records (Barker *et al.*, 2009).

IRELAND [H1-40] 27.3, May – August, 50 adults in five counties (Walsh *et al.*, in press).

WEXFORD [H12] 42 adults (Walsh *et al.*, in press).

**Non-specific comments:** HAMPSHIRE [10/11/12] 'The worst year since 2001' (Barker *et al.*, 2009). ISLE OF WIGHT [10] 'Only a small number.....were seen in the spring and late summer with the first on 3.4.....and the last on 9.10' (Knill-Jones, 2009a). S. HAMPSHIRE [11] Hayling Island, 'only one was recorded on 22.8' (Phillips & Johnson, 2009). E. SUSSEX [14] Icklesham, 'the only record was one seen on 22.8' (Hunter, 2009). S. ESSEX [18] Bradwell-on-sea, 'failed to appear for the first time since 2001' (Dewick, 2009). E. SUFFOLK [25] Landguard, 'singles on 4.8 & 21.9' (Odin, 2009).

**Earliest dates:** ISLE OF WIGHT [10] Bonchurch, 3.4 (Knill-Jones, 2009a); Wheeler's Bay, 3.4 (Knill-Jones, 2009a). WEXFORD [H12] The Raven, 27.3 (Walsh *et al.*, in press).

**Latest dates:** W. CORNWALL [1] IOS: Longstone, St Mary's, November (1) (Scott, 2009a).

**Large counts:** W. CORNWALL [1] IOS: Longstone, St Mary's, 8.8 (11) (MWS).

**Most northerly records:** RENFREWSHIRE [76] Glasgow, 6.6 (S. Shanks).

**Evidence of breeding:** S. HAMPSHIRE [11] Southbourne Undercliff, 15.12, one larva (MJS, in Barker *et al.*, 2009).

## NYMPHALIDAE

### 1590 *Vanessa atalanta* (L.) Red Admiral [R][I]

**Selected annual totals:** W. CORNWALL [1] IOS: Longstone, St Mary's – 548 (Scott, 2009a). E. KENT [15] Dungeness area – 213 at two sites (Clancy, 2009a). S.E. YORKSHIRE [61] Spurn – 1308 (Spence, 2008).

**VC/County summaries:** HAMPSHIRE [10/11/12] 1.1 – 17.12, 1560 records (Barker *et al.*, 2009).

IRELAND [H1-40] January – November, 1483 adults in 18 counties (Walsh *et al.*, in press). CORK [H3/4/5] 214 adults (Walsh *et al.*, in press). WATERFORD [H6] 194 adults (Walsh *et al.*, in press).

WEXFORD [H12] 206 adults (Walsh *et al.*, in press).

**Earliest dates (active):** ISLE OF WIGHT [10] Sandown, 7.1 (Knill-Jones, 2009a). S. HAMPSHIRE [11] Gosport, 30.12.08 – 22.1 (overwintering, active on latter date) (Tinling, 2008), 1.1 (Barker *et al.*, 2009). E. SUSSEX [14] Peacehaven, 1.1 (Pratt, 2009). E. GLOUCESTERSHIRE [33] Thornbury, 1.1 (M. Brown).

**Latest dates (active):** S. ESSEX [18] Bradwell-on-sea, 21.12 (Dewick, 2009).

**Large counts:** W. CORNWALL [1] Whitwick, 13.9 (55) (RF). S. HAMPSHIRE [11] Gosport, 21.9 (182) (DJAT, in Barker *et al.*, 2009). S.E. YORKSHIRE [61] Spurn, 15.9 (350, flying south) (Spence, 2009).

### 1591 *Vanessa cardui* (L.) Painted Lady [I]

**Selected annual totals:** E. SUSSEX [14] Icklesham – 90+ (Hunter, 2009).

**VC/County summaries:** HAMPSHIRE [10/11/12] 25.1 – 19.11, 114 records (Barker *et al.*, 2009).

IRELAND [H1-40] April – October, 106 adults in 13 counties (Walsh *et al.*, in press).

**Non-specific comments:** DORSET [9] Portland, 'recorded in very small numbers between 27.4 & 6.5, and again between 21.7 & 22.10 (Cade, 2009). HAMPSHIRE [10/11/12] 'The worst year [on transects] since 1993 (Barker *et al.*, 2009). ISLE OF WIGHT [10] 'A poor year with only a couple of dozen reported' (Knill-Jones, 2009a). S. HAMPSHIRE [11] Hayling Island, 'very few were logged' (Phillips & Johnson, 2009). E. SUSSEX [14] Icklesham, 'one on 2.5 then daily from 26.7 until 22.10 but never reached double figures' (Hunter, 2009); Peacehaven, 'the worst [year] since 1997' (Pratt, 2009). E. SUFFOLK [25] Bawdsey, 'a small influx during August & September involving tens of individuals' (Deans, 2009); Landguard, 'just 19 noted from 30.5 to 3.8' (Odin, 2009); Minsmere, 'a small influx occurred in mid-August' (Harvey & Higgott, 2009).

**Earliest dates (active):** W. CORNWALL [1] IOS: Longstone, St Mary's, 23.3, 26.3 (MWS). S. HAMPSHIRE [11] Gosport, 25.1 (L. & E. Martin, in Tinling, 2008).

**Latest dates (active):** S. HAMPSHIRE [11] Nr. Magdalen Hill Down, 19.11 (Barker *et al.*, 2009).

**Large counts:** DORSET [9] Portland Bill, 22.7 (10) (Cade, 2009). E. KENT [15] Pegwell, 'up to ten present between 27.7 & 9.8 (Solly *et al.*, 2009).

#### GEOMETRIDAE

##### 1716 *Rhometra sacraria* (L.) Vestal [I]

**Total no. reported: 109**

**Distribution of records:**

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
43	26	19	6	7	-	-	2	6	-	-

**Months of occurrence:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	-	-	-	1	3	2	7	38	57	1	-

**Selected annual totals from fixed traps:** W. CORNWALL [1] The Lizard – 12 at three sites (Tunmore, 2009).

**Earliest dates:** S. DEVON [3] Shaugh Prior, 2.5 (A. Trout per RFM).

**Latest dates:** W. CORNWALL [1] IOS: Longstone, St Mary's, 1-4.11 (MWS).

**Most northerly records:** N. LANCASHIRE [60] Heysham, 11.9 (per SMP); Sunderland, 17.10 (JG per SMP). S.E. YORKSHIRE [61] Atwick, 4.8 (WMC per CHF); Hunmanby Gap, 9.9 (KC per CHF). ISLE OF MAN [71] No site(s), June (3), July (1) (Scott, 2009b).

**Selected inland VC records/summaries:** N. HAMPSHIRE [12] Farnborough, 16.9 (KBW, in Barker *et al.*, 2009); Liss, 10.9 (P. Twine, in Barker *et al.*, 2009). E. KENT [15] Biddenden, 6.9 (SJB). W. KENT [16] Barnehurst, 1.8 (TS per IDF). SURREY [17] Kingston-upon-Thames, 2.9 (A. Turner per GAC). BUCKINGHAMSHIRE [24] Stoke Poges, 13.7, 7.8 (SC per MVA). E. GLOUCESTERSHIRE [33] Whitminster, 29.9 (MM per RGG). W. GLOUCESTERSHIRE [34] Woodchester, 9.9 (MM per RGG).

##### 1720 *Orthonama obstipata* (Fab.) Gem [I][MC?]

**Total no. reported: 175**

**Distribution of records:**

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
128	13	12	8	2	1	-	1	6	-	4

**Months of occurrence:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	2	-	2	4	4	7	31	34	80	11	-

**Selected annual totals from fixed traps:** W. CORNWALL [1] IOS: Longstone, St Mary's – 15 (Scott, 2009a); IOS: St Agnes (20.9 - 23.10) – 80 (Scott, 2009a).

**Earliest dates:** W. CORNWALL [1] IOS: St Agnes, 9.2 (2) (MEH, in Davey, 2008).

**Latest dates:** W. CORNWALL [1] IOS: Longstone, St Mary's, 26.11 (MWS). NORTHAMPTONSHIRE [32] Woodnewton, 27.11 (N. Smith per MJH).

**Most northerly records:** N. LANCASHIRE [60] Ashton-on-Ribble, 19.9 (DPR per SMP); Morecambe, 22.8 (JG per SMP); Silverdale, 29.8 (T. Riden per SMP); Sunderland, 29.8, 21.9 (JG per SMP). S.E. YORKSHIRE [61] Rudston, 6.8 (ASE per CHF). ISLE OF MAN [71] No site(s), August (1) (Scott, 2009b).

**Selected inland records:** NORTHAMPTONSHIRE [32] Irchester CP, 27.8 (DL per MJH); Woodnewton, 27.11 (N. Smith per MJH).

#### SPHINGIDAE

##### 1972 *Agrius convolvuli* (L.) Convolvulus Hawk-moth [I][In]

**Total no. reported: 208**



**Distribution of records:**

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
15	24	13	49	7	5	1	19	4	64	7

**Months of occurrence:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	-	-	-	-	-	-	67	141	-	-	-

**Selected annual totals from fixed traps:** DORSET [9] West Bexington – 13 (Eden, 2009). E. SUFFOLK [25] Dunwich Heath – 13 (Moore, 2009). E. NORFOLK [27] Weybourne – 10 (MP per JW). S.E. YORKSHIRE [61] Spurn – 9 (Spence, 2009). BERWICKSHIRE [81] Eyemouth – 59, at *Nicotiana* spp. flowers during the period 19.8 – 24.9 (A. Patterson).

**Latest dates:** E. SUFFOLK [25] Dunwich, 27.9 (DCGB).

**Large single night counts:** E. NORFOLK [27] Weybourne, 8.9 (4) (MP per JW). S.E. YORKSHIRE [61] Easington, 14.9 (3) (MFS per CHF); Spurn, 13.9 (3) (BRS per CHF). BERWICKSHIRE [81] Eyemouth, 13.9 (5), 17.9 (8), 18.9 (7), 19.9 (7), 20.9 (7), 21.9 (8), at *Nicotiana* spp. flowers (A. Patterson).

**Most northerly records:** CAITHNESS [109] Dunnet Head, 23.8 (M. Legg per N. Money); Shebster, 31.8 (D. King per N. Money). SHETLAND ISLANDS [112] Ocracquoy, 31.8 (Anon., 2008a); Virkie, 3.9 (Anon., 2008a). See also offshore record.

**Selected inland records:** N. HAMPSHIRE [12] Basingstoke, 11.9 (AHD per TJN); Kingsley, 30.8 (KBW, in Barker *et al.*, 2009). W. SUFFOLK [26] Nowton, 16.8 (RFE per AWP). NORTHAMPTONSHIRE [32] Oundle, 7.9 (P. Horsnail per MJH); Woodnewton, 1.9 (N. Smith per MJH). E. GLOUCESTERSHIRE [33] Elcombe, September (R. Morris per RGG). W. GLOUCESTERSHIRE [34] Culkerton, 26.9 (MO per RGG); Oldcroft, 20.9 (A. Kear per RGG). WARWICKSHIRE [38] Temple Grafton, 4.9 (AFG per DCGB). S. LINCOLNSHIRE [53] Broadholme, 24.8 (M. Grey).

**Immature stages:** W. CORNWALL [1] IOS: St Mary's, 14.10, larva (Scott, 2009a).

**Offshore records:** Balmoral FRV Oil Rig (120 miles offshore in North Sea), 2.9, one dead adult with another probable seen (J. TARRIER per M. Grantham, via MT).

**1984 *Macroglossum stellatarum* (L.) Humming-bird Hawk-moth [I]**

**Minimum no. reported:** 261

**Distribution of records:**

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
46	32	35	59	30	-	10	7	11	-	31

**Months of occurrence (active):**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	4	1	7	7	17	95	84	7	23	2	-

**Selected annual totals:** E. KENT [15] Dungeness area – 22 (Clancy, 2009a).

**VC/County summaries:** E. CORNWALL [2] 20.4, 23.7 – 14.8, seven adults (per LACT). HAMPSHIRE [10/11/12] Feb., 29.5 – 24.10, 32+ adults (Knill-Jones, 2009a; Barker *et al.*, 2009). NORFOLK [27/28] 26.6 – 17.10, 39+ adults (per JW). IRELAND [H1-40] 2.4 – 16.11, 31+ adults in nine counties (Walsh *et al.*, in press).

**Non-specific comments:** DORSET [9] Portland, 'fewer than ten records.....between the extreme dates of 3.4 & 22.10' (Cade, 2009). E. SUSSEX [14] Peacehaven, 'one record, the poorest year since 1993' (Pratt, 2009).

**Earliest dates (active):** W. CORNWALL [1] Cury, 12.2 (FTJ); Cury Cross Lanes, 10.2 (Tunmore, 2009). ISLE OF WIGHT [10] Ventnor, 1.2 (A. Butler per SAK-J). E. KENT [15] Dungeness, end of February (per DB).

**Latest dates (active):** E. KENT [15] Monkton, 14.11 (Anon., 2008b). E. CORK [H5] Cobh, 16.11 (Walsh *et al.*, in press).

**Immature stages/Evidence of breeding:** HERTFORDSHIRE [20] Aldbury, 3.9, larva (GGB per CWP); Royston, 16.8, larva (JEC per CWP).

## NOCTUIDAE

2091 *Agrotis ipsilon* (Hufn.) Dark Sword-grass [I]

Total no. reported: 2321

Distribution of records:

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
623	393	524	238	71	10	-	121	156	5	180

Months of occurrence:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3	4	24	66	125	36	399	991	297	131	70	5

**Selected annual totals from fixed traps:** W. CORNWALL [1] IOS: Longstone, St Mary's – 250 (Scott, 2009a). DORSET [9] Portland Bird Observatory – 111 (Cade, 2009). E. KENT [15] Dungeness area – 193 at sixteen sites (Clancy, 2009a); Isle of Thanet – 133 at five sites (Solly *et al.*, 2009).

**Earliest dates:** W. CORNWALL [1] IOS: Longstone, St Mary's, 13.1, 19.1 (MWS); Church Cove, The Lizard, 23.1 (MT, in Davey, 2008).

**Latest dates:** W. CORNWALL [1] IOS: Longstone, St Mary's, 15.12 (MWS). S. DEVON [3] Uplyme, 20.12 (AK).

**Large single night counts:** DORSET [9] West Bexington, 24.7 (23) (Eden, 2009).

2119 *Peridroma saucia* (Hb.) Pearly Underwing [I]

Total no. reported: 221

Distribution of records:

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
57	77	48	12	7	-	-	4	10	-	6

Months of occurrence:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7	6	1	3	15	8	10	60	52	33	9	4

**Selected annual totals from fixed traps:** W. CORNWALL [1] IOS: Longstone, St Mary's – 34 (Scott, 2009a). DORSET [9] Portland Bird Observatory – 24 (Cade, 2009). ISLE OF WIGHT [10] Bonchurch – 30 (JH).

**Earliest dates:** W. CORNWALL [1] IOS: Longstone, St Mary's, 5.1, 19.1, 31.1 (MWS); Trewellard, 22.1 (J. Foster, in Davey, 2008). ISLE OF WIGHT [10] Bonchurch, 28.1, 30.1 (JH).

**Latest dates:** W. CORNWALL [1] IOS: Longstone, St Mary's, 21.12 (2), 23.12 (2) (MWS).

**Selected inland records:** W. KENT [16] Barnehurst, 9.5 (TS per IDF); Sevenoaks, 22.8 (S. Clerici per IDF). MIDDLESEX [21] Hollands Park, 7.6 (Tunmore & Hill, 2009). BUCKINGHAMSHIRE [24] Milton Keynes, 24.9 (P. & B. Page per MVA). NORTHAMPTONSHIRE [32] Pitsford Reservoir, 1.9 (J. Wallace per MJH).

2195 *Mythimna vitellina* (Hb.) Delicate [I][MC]

Total no. reported: 355

Distribution of records:

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
197	102	45	4	2	1	1	-	1	-	2

Months of occurrence:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-	-	1	1	10	26	28	13	133	106	19	-

**Selected annual totals from fixed traps:** W. CORNWALL [1] IOS: Longstone, St Mary's – 133 (Scott, 2009a).

**Earliest dates:** S. DEVON [3] Paignton, 14.3 (D. Smith per RFM). MERIONETHSHIRE [48] Traethdy, Harlech, 26.4 (HB per ANG).

**Latest dates:** W. CORNWALL [1] IOS: Longstone, St Mary's, 25.11 (MWS).

**Large single night counts:** W. CORNWALL [1] IOS: Longstone, St Mary's, 5.10 (7), 12.10 (7) (MWS).

**Most northerly records:** ISLE OF MAN [71] No site, October (1) (Scott, 2009b).

**Selected inland records:** N. HAMPSHIRE [12] Old Basing, 22.7 (J. Andrews per TJN). HERTFORDSHIRE [20] Bishops Stortford, 14.6 (JF per CWP). E. SUFFOLK [25] Sicklesmere, 18.6 (SD per AWP). WARWICKSHIRE [38] Warwick, 7.11 (M. Walsh per DCGB).

### 2203 *Mythimna unipuncta* (Haw.) White-speck [I][MC]

Records of this species from the Isles of Scilly are summarised in a separate section below but have otherwise been excluded from this account. This is due to the presence of a resident population of *M. unipuncta* on the Scillies, and the records of large numbers of locally-bred adults being indistinguishable from records of an immigrant origin.

**Total no. reported: 129**

**Distribution of records:**

SW	CS	SE	EA	SI	W	CE	NE	NW	S	I
47	64	4	1	-	1	-	3	4	1	4

**Months of occurrence:**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2	-	-	-	-	1	1	2	36	36	46	5

**Selected annual totals from fixed traps:** W. CORNWALL [1] The Lizard – 32 at three sites (Tunmore, 2009). DORSET [9] Portland Bird Observatory – 26 (Cade, 2009). ISLE OF WIGHT [10] Island total – 21 at five sites (Knill-Jones, 2009a).

**Earliest dates:** DORSET [9] West Bexington, January (2) (Eden, 2009). S. HAMPSHIRE [11] Pennington, 25.7 (M. Ward per TJN). OUTER HEBRIDES [110] Baile Mor, North Uist, 14.6 (RWB per DD).

**Latest dates:** S. DEVON [3] Uplyme, 23.12 (AK per RFM). DORSET [9] West Bexington, December (4) (Eden, 2009).

**Most northerly records:** S.E. YORKSHIRE [61] Spurn, 22.9 (BRS); Hunmanby Gap, 28.9 (KC per CHF). N.E. YORKSHIRE [62] Great Smeaton, 13.9 (JE per CHF). ISLE OF MAN [71] No site(s), August (1), October (3) (Scott, 2009b). OUTER HEBRIDES [110] Baile Mor, North Uist, 14.6 (RWB per DD).

**Selected inland records:** N. SOMERSET [6] Langport, 10.9 (JB per MY).

**Scilly Isles [1] summary:** Longstone, St Mary's - 2008 annual total: 3394; monthly totals: Jan (67), Feb (12), Mar (5), Apr (16), May (89), Jun (87), Jul (26), Aug (592), Sep (129), Oct (853), Nov (1255), Dec (263) (Scott, 2009a); peak nightly counts: 23.10 (128), 25.10 (127), 26.11 (119) (MWS).

### 2441 *Autographa gamma* (L.) Silver Y [I]

**Selected annual totals from fixed traps:** DORSET [9] Portland Bird Observatory – 917 (Cade, 2009); West Bexington – 532 (Eden, 2009). E. KENT [15] Dungeness area – 1023+ at sixteen sites (Clancy, 2009a); Isle of Thanet – 886 at five sites (Solly *et al.*, 2009). E. SUFFOLK [25] E. SUFFOLK [25] Bawdsey – 592 (Deans, 2009); Landguard – 481 (Odin, 2009). S.E. YORKSHIRE [61] Spurn – 1764 (Spence, 2009). MID-W. YORKSHIRE [64] Bellflask – 256 (BSM per CHF). S. NORTHUMBERLAND [67] Tynemouth – 963 (Tams, 2009).

**Earliest dates:** W. CORNWALL [1] Church Cove, The Lizard, 23.1 (MT, in Davey, 2008). S. DEVON [3] Uplyme, 20.1 (AK).

**Latest dates:** W. CORNWALL [1] IOS: Longstone, St Mary's, 17.12 (2), 19.12 (MWS).

**Large single night counts:** E. SUFFOLK [25] Bawdsey, 11.9 (67) (MJD per AWP). S.E. YORKSHIRE [61] Spurn/Kilnsea, 2.8 (114), 3.8 (255), 7.8 (110) (BRS, PAC, JWC per CHF). MID-W. YORKSHIRE [64] Nr. Hipswell, 29.8 (191) (CHF *et al.*). S. NORTHUMBERLAND [67] Tynemouth, 1.6 (515) (TJT).

**Large diurnal/dusk counts:** N. LANCASHIRE [60] Fleetwood Nature Park, 18.9 (342) (B. Dyson per SMP). S.E. YORKSHIRE [61] Spurn, annual total – 1308, including peak day counts of: 8.6 (270) (Spence, 2009), 20.9 (105) (BRS per CHF). N.E. YORKSHIRE [62] Saltburn Cliffs, 16.9 (96),



18.9 (185) (DM per CHF). BERWICKSHIRE [81] Burnmouth Coast SSSI, 29.8 (250+) (B. Prater per J. Waddell).

### ANNEX 3: SELECTED 2008 CHANNEL ISLANDS [VC 113] RECORDS

- 1289 *Euchromius ocella* (Haw.)  
Guernsey: St Peters, 28.1, 29.1 (2), first VC records (PDMC, in Lawlor, 2009).
- 1995a *Cerura erminea* (Esp.) Feline  
Jersey: Handois, 7.6, third VC record (S. Robson, in Long, 2008).
- 2102a *Ochropleura leucogaster* (Frey.) Radford's Flame Shoulder  
Guernsey: St Peters, 10.10 (PDMC, in Lawlor, 2009).
- 2451 *Catocala fraxini* (L.) Clifden Nonpareil  
Guernsey: La Charroterie, 30.8 (Lawlor, 2009).

### APPENDIX 1

#### Corrections/Additions to 2007 report

- 0897a *Anatrachyntis badia* (Hodges) [In]  
E. SUFFOLK [25] Rushmere St Andrew, 11.8 (at light), first VC record and first 'at large' in Britain (Higgott, 2009).
- 1080a *Cymolomia hartigiana* (Saxesen) [I/In?]  
E. SUFFOLK [25] Bawdsey, 17.7, new to Britain (Deans & Clifton, 2010).
- 1262 *Cydia amplana* (Hb.) [I]  
W. SUSSEX [13] Middleton-on-sea, 29.8 (IDM, in Dickson, 2009).
- 1403a *Duponchella fovealis* (Zell.) [I][In]  
E. NORFOLK [27] Barnham Broom, 16.9 (J. Geeson per BFS).
- 1408 *Palpita vitrealis* (Rossi) [I]  
N. LANCASHIRE [60] Bispham, 12.10 (BBr per SMP).
- 1476 *Ephestia cautella* (Walk.) [In]  
S. HAMPSHIRE [11] Stubbington, 23.7 (DPH, gen. det. RJD, in Barker *et al.*, 2009).
- 1973 *Acherontia atropos* (L.) Death's-head Hawk-moth [I][In?]  
N. LANCASHIRE [60] Longridge, 14.9 (fell down chimney) (per WA, via SMP).
- 1984 *Macroglossum stellatarum* (L.) Humming-bird Hawk-moth [I]  
VC58 summary: Total: 7 records; dates: 26.2, 8.3, 15.3, 2.4, 21.4, 7.7, 23.8 (per SHH); all these records additional to the totals provided in the 2007 report.  
Irish total revised from 31 to 33 (per PMW).
- 1987 *Hyles gallii* (Rott.) Bedstraw Hawk-moth [I][MC]  
N. LANCASHIRE [60] Heysham, 19.7 (DJH per SMP).
- 1995a *Cerura erminea* (Esp.) Feline  
CHANNEL ISLANDS [113] Guernsey: La Claire Mare, 8.6, second VC record (PDMC per PHS, in Hall, 2009).
- 2031 *Leucoma salicis* (L.) White Satin [R][I/V]  
N. NORTHUMBERLAND [68] Whitley Bay, 5.8 (K. Regan per TJT).
- 2137 *Eurois occulta* (L.) Great Brocade [I][R]  
CHESHIRE [58] Alsager, 22.8, 29.8 (M. Dale per SHH); Appleton Thorn, 24.8 (S. Bayley per SHH); Brushes, 26.8 (P. Keane per SHH); Dukinfield, 22.8, 23.8 (P. Keane per SHH); Hack Green,

25.8 (J. Davies per SHH); Higher Poynton, 25.8 (SHH); Marbury CP, 22.8 (3), 23.8 (2) [not '23/24.8 (6)' as previously stated] (EB per SHH); Mere, 26.8 (S. Blamire per SHH); Mottram, 27.8 (WU per SHH); Pensby, 24.8 (NE per SHH). S. LANCASHIRE [59] Billinge, 25.8 (CAD per SMP); Hale, 22.8 (CC per SMP); Rochdale, 24.8 (D. Winnard per SMP). N. LANCASHIRE [60] Bay Horse, 24.8 (2) (NAJR per SMP); St Michaels, 22.8 (GM per SMP); Silverdale, 24.8 (T. Riden per SMP).

These additional records and corrections produce an amended minimum total of 162 immigrant *E. occulta* in 2007.

- 2195** *Mythimna vitellina* (Hb.) **Delicate** [I][MC]  
CHESHIRE [58] Nantwich, 8.11 (PG per SHH).
- 2203** *Mythimna unipuncta* (Haw.) **White-speck** [I][MC]  
S. LANCASHIRE [59] Briercliffe, July (undated) (TL per SMP); Haydock, 17.8 (GDA per SMP). N. LANCASHIRE [60] Heysham, 3.11 (DJH per SMP).  
Irish total revised from 2 to 1 due to the withdrawal of a record (per PMW).
- 2387a** *Platyperigea kadenii* (Frey.) **Clancy's Rustic** [MC][I]  
N. HAMPSHIRE [12] Overton, 7.6, first VC record (per M. Wall).
- 2400** *Helicoverpa armigera* (Hb.) **Scarce Bordered Straw** [I][In]  
CHESHIRE [58] Chester, 5.9, 16.9 (GW per SHH).
- 2413** *Deltote bankiana* (Fab.) **Silver Barred** [R][I/V]  
Record listed from Glengariff [H3] on 15.6 unlikely to refer to an immigrant as resident populations are believed to be present in this area (BFS, pers. comm.).
- 2436** *Macdunnoughia confusa* (Steph.) **Dewick's Plusia** [I][In][MC?]  
S. HAMPSHIRE [11] Ashurst, 22.10 (KG per BFS); Fareham, 1.10, 27.10 (KW per BFS); Leigh Park, 21.9 (BC per BFS); Lovedean, 6.9 (AJ per BFS).

## APPENDIX 2

### Corrections/Additions to 2006 report

- 0278a** *Opogona omoscopa* (Meyr.) [In]  
S. NORTHUMBERLAND [67] Tynemouth, 10.10 (at light), first VC record and first 'at large' in Britain (Money, 2009).
- 1492** *Crombrugghia laetus* (Zell.) [I]  
WATERFORD [H6] Tramore, 27.6, new to Ireland (Bryant & Bond, 2010).
- 1716** *Rhodometra sacraria* (L.) **Vestal** [I]  
WEST Lothian [84] Winchburgh, 26.9 (G. Fitchett per M. Cubitt).
- 1990** *Hyles livornica* (Esp.) **Striped Hawk-moth** [I]  
OXFORDSHIRE [23] Milcombe, 24.6 (A. Turner per MCT).
- 2195** *Mythimna vitellina* (Hb.) **Delicate** [I][MC]  
WEST Lothian [84] Linlithgow, 23.10 (C. Fowler per M. Cubitt).
- 2387a** *Platyperigea kadenii* (Frey.) **Clancy's Rustic** [MC][I]  
SURREY [17] Beare Green, 2.10, first VC record (P.C. Follett per GAC).
- 2400** *Helicoverpa armigera* (Hb.) **Scarce Bordered Straw** [I][In]  
BEDFORDSHIRE [30] Dunstable, 6.9 (3) (L. Carman per AMB).
- 2403** *Heliothis peltigera* (D. & S.) **Bordered Straw** [I]  
WEST Lothian [84] Linlithgow, 15.6, 14.7 (C. Fowler, J. Pearce-Higgins per M. Cubitt).

## APPENDIX 3

## Corrections/Additions to 2005 report

1973 *Acherontia atropos* (L.) Death's-head Hawk-moth [I][In?]  
E. KENT [15] Rolvenden Layne, 5.9 (A.J. Bradshaw).

2455 *Catocala sponsa* (L.) Dark Crimson Underwing [R][I]  
E. KENT [15] Rolvenden Layne, 7.9 (A.J. Bradshaw).

## APPENDIX 4

## Corrections/Additions to 2004 report

1403a *Duponchella fovealis* (Zell.) [I][In]  
MONTGOMERYSHIRE [47] Hendomen, 8.10, first VC record (K. Wesson, in Langmaid & Young, 2009).

## APPENDIX 5

## Corrections/Additions to 1995 report

1995a *Cerura erminea* (Esp.) Feline  
CHANNEL ISLANDS [113] Jersey: Gorey, 19.7, first VC record (R. Burrow, in Long, 2008).

## Initials of recorders

AB	Bashford, A.	GJJ	Jarvis, G. & J.	MWS	Scott, M.A. & W.J.
AC	Cornish, A.	GM	Mortimore, G.	MY	Yeates, M.
AGJB	Butcher, A.G.J.	GRA	Avery, G.R.	NAJR	Rogers, N.A.J.
AH	Harmer, A.	GSAS	Spraggs, G.S.A.	NB	Bowles, N.
AHD	Dobson, A.H.	GW	Wotherspoon, G.	NE	Edmonds, N.
AJ	Jafkins, A.	HB	Bantock, H.	NH	Hulme, N.
AJM	Mackay, A.J.	IDE	Entwhistle, I.D.	NJ	Jarman, N.
AK	Kennard, A.	IDF	Ferguson, I.D.	NM	Montegriffo, N.
AM	Martin, A.	IDH	Hunter, I.D.	NO	Odin, N.
AMB	Banthorpe, A. & M.	IDM	Masters, I.D.	NS	Sherman, N.
AMD	Davis, A.M.	IL	Lang, I.	PBe	Bergdahl, P.
AMT	Tebbs, A. & M.	IM	Marshall, I.	PBr	Bradley, P.
ANBS	Simpson, A.N.B.	IRT	Thirlwell, I.R.	PC	Clarke, P.
ANG	Graham, A.N. & J.E.	JA	Andrews, J.	PD	Durnell, P.
AP	Pease, A.	JB	Bebbington, J.	PDMC	Costen, P.D.M.
AS	Saunders, A.	JBH	Higgott, J.B.	PE	Egerton, P.
ASE	Ezard, A.S.	JC	Clifton, J.	PF	Franghiadi, P.
ASH	Hardie, A. & S.	JCN	Nicholls, J.C.	PG	Griffiths, P.
AT	Tyner, A.	JE	Edwards, J.	PGA	Akers, P.G.
AW	Wood, A.	JEC	Chainey, J.E.	PH	Harris, P.
AW <sup>2</sup>	Whitehead, A.	JEO	Owen, J.E.	PHS	Stirling, P.H.
AWP	Prichard, A.W.	JF	Fish, J.	PJ	Jewess, P.
BBa	Banson, B.	JG	Girdley, J.	PJB	Baker, P.J.
BBe	Bewsher, B.	JH	Halsey, J.	PJM	Marsh, P.J.
BBo	Boothroyd, B.	JHC	Clarke, J.H.	PK	Kitchener, P.
BBr	Brigden, B.	JJ	Jones, J.	PLH	Haynes, P.L.
BC	Collins, B.	JK	Knowler, J.	PM	Milton, P.
BE	Elliot, B.	JN	Nelson, J.	PMW	Walsh, P.M.
BFS	Skinner, B.F.	JR	Reeves, J.	PRW	Williams, P.R.
BH	Hunt, B.	JRL	Langmaid, J.R.	PS	Sutton, P.
BPH	Henwood, B.P.	JS	Scanes, J.	PWF	Forster, P.W.
BRS	Spence, B.R.	JTR	Radford, J.T.	RB	Barfoot, R.
BSM	Morland, B. & S.	JW	Wheeler, J.	RBW	Wynn, R.B.
CAD	Darbyshire, C.A.	JWC	Cooper, J.W.	RC	Coomber, R.
CB	Bentley, C.	KB	Bland, K.	RE	Eden, R.



CC	Cockbain, C.	KBW	Wills, K.B.	RF	Fox, R.
CHF	Fletcher, C.H.	KC	Clarkson, K.	RFE	Eley, R.F.
CO	Osthoff, C.	KG	Godfrey, K.	RFM	McCormick, R.F.
CP	Pinder, C.	KR	Redshaw, K.	RGG	Gaunt, R.G.
CR	Roots, C.	KT	Tailby, K.	RJD	Dickson, R.J.
CRP	Pratt, C.R.	KW	Wheeler, K.	RK	Kiddie, R.
CT	Turley, C.	LACT	Truscott, L.A.C.	RP	Palmer, R.
CWP	Plant, C.W.	LM	Marshall, L.	RPS	Salter, R. & P.
DB	Beck, D.	LO	Oakes, L.	RWA	Arthur, R.W.
DBW	Wooldridge, D.B.	MAS	Snelling, M.A.	RWB	Byrne, R.W.
DC	Crawley, D.	MB	Blencowe, M.	RWLG	Gritton, R.W.L.
DCGB	Brown, D.C.G.	MC	Cade, M.	SAK-J	Knill-Jones, S.A.
DD	Davidson, D.	MCH	Harvey, M.C.	SB	Bayley, S.
DEW	Wilson, D.E.	MCP	Perry, M.C.	SC	Coverdale, S.
DGG	Green, D.G.	MCT	Townsend, M.C.	SCM	Madge, S.C.
DJAT	Tinling, D.J.A.	MDH	Hale, M. & D.	SD	Dumican, S.
DJH	Holdings, D.J.	ME	Elliott, M.	SDB	Beavan, S.D.
DJS	Slade, D.J.	MEH	Hicks, M.E.	SHH	Hind, S.H.
DK	Kipling, D.	MF	Forster, M.	SJ	Joyner, S.
DL	Larkin, D.	MFB	Feeny-Brown, M.	SJB	Broyd, S.J.
DM	Money, D.	MFS	Stoyle, M.F.	SMP	Palmer, S.M.
DNB	Burrows, D.N.	MJD	Deans, M.J.	SO	Ogden, S.
DPH	Houghton, D.P.	MJH	Hammond, M.J.	SPC	Clancy, S.P.
DPR	Rumley, D.P.	MJS	Skelton, M.J.	SS	Stripp, S.
DT	Turner, D.	MK	Knott, M.	TDC	Codlin, T.D.
DW	Walker, D.	ML	Legg, M.	TG	Green, T.
DWJ	Jenner, D.W.	MLO	Opie, M.L.	TH	Hodge, T.
EB	Bentham, E.	MM	McCrea, M.	TJ	James, T.
FS	Solly, F.	MMC	Crewe, M. & M.	TJN	Norriss, T.J.
FTJ	Johns, F.T.	MN	Nicholls, M.	TJT	Tams, T.J.
GAC	Collins, G.A.	MO	Oates, M.	TL	Lally, T.
GC	Corbet, G.	MP	Preston, M.	TR	Rouse, T.
GCE	Evans, G.C.	MS	Senior, M.	TS	Steele, T.
GD	Davis, G.	MSH	Hodgson, M.S.	VM	Massimo, V.
GDA	Atherton, G. & D.	MSP	Parsons, M.S.	WA	Ashton, W.
GGB	Broad, G. & G.	MT	Tunmore, M.	WMC	Curtis, W. & M.
GJD	Dennis, G.J.	MVA	Albertini, M.V.	WU	Underwood, W.

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**Tamarisk Peacock *Chiasmia aestimaria* (Hb.) (Lep.: Geometridae) – a species new to Sussex**

The Tamarisk Peacock *Chiasmia aestimaria* is an occasional vagrant, having been recorded on five previous occasions in the United Kingdom since the first in 2004. All previous records are confined to the eastern corner of Kent, from Greatstone-on-Sea and New Romney in the west to Sholden, near Deal, in the east. The species is usually found in southern and south-eastern Europe, where there are two generations annually from April to May and again from August until October. According to Waring (2009. *Field Guide to the Moths of Great Britain and Ireland (Revised edition)*, British Wildlife Publishing), the larval foodplant is, predictably, Tamarisk.

On the night of 23 August 2010 I ran my moth trap, a twin 30-watt actinic Skinner trap, on my south-facing garden patio (O.S. grid reference TQ 458027; VC 14). Although I have recorded reasonable numbers of migrant moths in the past, the situation is far from ideal as my house stands on a slope facing north-west, with a mixed deciduous wood at the top of the hill. This slope and the rear of my house combine to create a frustrating canyon, which is not very conspicuous to passing insects. As a result, my records are usually depressed compared to those of other recorders.

The weather in the days leading up to this date was ideal for migrant species, with strong southerly winds blowing up from the continent. The southerly wind remained strong on this night at about Beaufort force 4 to 5 generally, although my garden was sheltered from the worst of it. I had commented to my wife earlier in the evening that it was worth running the trap in such windy conditions as there is always the possibility of something exotic visiting the light, recalling the first UK record for the Willowherb Hawk-moth *Proserpinus proserpina* (Pallas) in May 1985, just a couple of streets away from our house following a mass of air moving across the UK from central Europe (Pratt, 1999. *A Revised History of the Butterflies and Moths of Sussex*. Booth Museum, Brighton). She did not share my enthusiasm when I excitedly awoke her later that night with my moth!

I performed my usual final check of the trap at 22.50 hours and immediately noticed an unusual species at rest inside the trap. The basic size, shape and resting posture was consistent with Peacock moth specimens, although I clearly recognised this as a previously unrecorded species. I hurriedly gathered a pot and carefully lifted the Perspex of the trap so as not to disturb and lose it. I need not have worried, as the moth obediently walked into the pot as I offered it. I later remarked how exhausted it must have been. From my study I quickly identified it as *Chiasmia aestimaria*. The moth did not match very well internet-based illustrations, but the illustration in Waring (2009) was similar. The markings were reasonably strong, considering the turbulent winds which had carried it. I took a photograph for county recorder Colin Pratt, who subsequently confirmed it as the first record for all Sussex (VCs 13 and 14). The specimen was also the first UK record outside eastern Kent.

The specimen has been donated to, and can now be viewed at, the Booth Museum of Natural History in Dyke Road, Brighton. I would like to thank Colin Pratt for his help and comments regarding this record.— STEVEN TEALE, 63 St. Leonard's Close, Denton, Newhaven, East Sussex BN9 0RW (E-mail: [clicka15@ymail.com](mailto:clicka15@ymail.com)).

***Cydia indivisa* Danilevsky, 1963 (Lep.: Tortricidae) new to Britain and other interesting records from Bernwood Forest in Buckinghamshire**

On 4 June 2010 I ran one twin 30-watt actinic and two 125-watt MV lights in Oakley Wood, a part of Bernwood Forest in Buckinghamshire. The temperature was 20°C at dusk, but under clear skies and with little wind it fell to 14°C after four hours when the session was terminated. All three traps were quite busy and a combined total of 109 species of moth attended them, including 42 species of micro-moth. As usual, the identities of some of the micros were not immediately obvious so examples were potted up and taken home. They were checked again in daylight the following day and those that could not be identified with certainty were retained in the freezer for future genitalia examination.

One of those retained was a small tortricoid moth with a wing length of 7mm (Plate 5). It had visited the 125-watt light placed along a narrow track marking the division between two forestry blocks, one entirely deciduous (mostly Pedunculate Oak *Quercus robur*) and the other mostly coniferous (Norway Spruce *Picea abies*, mixed with some oak). It was clearly a *Grapholita* or *Cydia* species, but I could not place the moth with any certainty amongst several possibilities and so it joined those being put in the freezer for eventual dissection by Peter Hall. Peter looked at the moth during October. After a considerable amount of research he found that he too could not identify it so a photograph of the genitalia was sent to two dissection experts, Brian Goodey and Jon Clifton. Both thought that it might be *Cydia indivisa* and thus a new moth for Britain. The genitalia photograph (Plate 6) was then sent to John Langmaid who confirmed that the moth was indeed *C. indivisa*. It has been given Bradley & Fletcher 'Log Book' number 1266b, placing it immediately after the very similar-looking 1266a *Cydia illutana* Herrich-Schäffer, 1851.

*Cydia indivisa* is a fairly widespread species in central and northern Europe. According to Razowski (2003. *Tortricidae of Europe. Volume 2: Olethreutinae*. Slamka) it is distributed from central and eastern Europe to Finland and from Western Siberia to the Russian Far East at Amurland. According to the *Fauna Europea* website ([www.faunaeur.org](http://www.faunaeur.org)) it is known from Austria, the Czech Republic, Estonia, Germany, Latvia, the Netherlands, Poland, Russia, Slovakia, Switzerland and all of the Scandinavian countries. Danilevsky & Kuznetsov (1968. In Bykhovskiy (ed.) *Fauna USSR* 5(1), 635 pp.) state that the larvae feed

under the bark of *Abies* often together with the larvae of other species and the flight period is given as late May to early July.

The moth was described as new to science by Danilevsky in 1963 (*Ent. Obozr.* 42: 172). He found that specimens in collections had been erroneously mixed with those of *Laspeyresia (Cydia) duplicana* Zetterstedt, 1839 and that the species had also been misidentified as *Grapholita interruptana* Herrich-Schäffer, 1851 by Obratsov in 1952, so it has a rather complicated taxonomic history. It is worth mentioning here that a 'Google' Internet search for *Cydia indivisa* will bring up a June 2006 report from the Sussex Moth Group of the species being trapped "in large numbers" in Rewell Wood, but it should be made clear that this was actually a misidentification of *Cydia illutana*.

All of Bernwood Forest has Site of Special Scientific Interest (SSSI) status. The majority of it lies in Buckinghamshire and is known by Natural England as the 'Shabbington Woods Complex'. The forested areas comprise Oakley Wood, York's Wood, Shabbington Wood and Hell Coppice, while the adjacent Bernwood Meadows, a pair of Wildlife Trust-owned ridge and furrow meadows on the western side of the woodland, are also included within the SSSI. On the Oxfordshire side of the county boundary is Waterperry Wood. All of the woodland is still owned by the Forestry Commission and was designated as a Forest Nature Reserve in 1981, mainly for its butterfly and moth interest. Unfortunately, like many similar sites in England, much of the interior had been planted with conifers during the 1950s and 1960s. Aerial spraying was employed up until the late-1960s, including the use of DDT to control pine weevil. However, against all the odds many broad-leaved trees and shrubs from the original ancient woodland still survive along the ride margins of each compartment and the conifers are now gradually being removed (which will not be good news for *Cydia indivisa*).

It is unusual that an inland woodland site such as Bernwood should be the source of a new species for Great Britain in 2010, particularly as the species concerned is associated with spruce trees. The block of Norway Spruce where the moth was found dates from 1965 and, apart from a small amount of glade infilling carried out ten years ago, there has been no subsequent planting of conifers anywhere in Bernwood. It is therefore likely that the moth has been overlooked there for some considerable time and this may also be true for other similar sites in the country. When added to the fauna of the Netherlands in 1983, *C. indivisa* was caught in some numbers within an infested spruce plantation during pheromone trials with lures aimed at its close relative *Cydia pactolana* Zeller, 1840. *C. pactolana* is regarded as an economic pest species in Europe and was first found in the UK during 1965, although there have been relatively few subsequent records. As it happens, it too was added to the Buckinghamshire list during 2010 (*Ent. Rec.* 122: 146) although not from the Bernwood area. To find *C. indivisa* it may be worth giving closer attention to those sites that have already produced records of *C. pactolana*.



*Cydia indivisa* is actually the second discovery of a moth new to Britain in Bernwood Forest within twelve months, the previous example, credited to Peter Hall, being *Ectoedemia longicaudella* Klimesch, 1953 (see *Ent. Rec.* 122: 112). The micro-moth fauna of Bernwood has not been well explored and these discoveries have spurred Peter Hall and myself to continue trapping there regularly. We cannot realistically expect any further species new to the country, but this large tract of woodland has produced, and will undoubtedly continue to produce, some very useful micro-moth records for the county. The discovery of *Pammene giganteana* Peyerimhoff earlier in 2010 has already been mentioned in these pages (*Ent. Rec.* 122. 147). The night of 4 June also brought in two other noteworthy tortricoid moths, *Ancylis upupana* Treitschke, which provided the first dated record for Buckinghamshire (although it does get a mention in the *Victoria County History*) and *Eucosmomorpha albersana* Hübner, which was only the third county record for that species. Two weeks later on 17 June the first county record of *Epinotia fraternana* Haworth was made in the same area of Oakley Wood along with the second county records for *Argyresthia glabratella* Zeller and *Elachista gangabella* Zeller. On 23 June *Coleophora orbitella* Zeller was trapped in Shabbington Wood and this was only the second record for VC 24, while on 7 July an example of *Ethmia dodecea* Haworth caught in Hell Coppice was another first for the county.

The highlight amongst macro-moth records from Bernwood Forest during 2010 was the capture of three examples of Triangle *Heterogenea asella* (D.& S.), a *British Red Data Book* species. They came to 125-watt MV lights on two nights during July, these being the first VC 24 records in more than 50 years. Bernwood is the only known site in the county for Common Fan-foot *Pechipogo strigilata* L. and this threatened UK Biodiversity Action Plan species had quite a good year there with 33 examples being trapped throughout the forest between 31 May and 7 July. A colony of another UK BAP species, the Forester *Adscita statices* L. continues to exist in very low numbers on the Wildlife Trust-owned meadows adjacent to the western edge and a visit there during the daytime on 4 June produced ten individuals. Common Fan-foot and Forester were both recorded on the original 1981 SSSI citation for Bernwood. They have done rather better than Argent and Sable *Rheumaptera hastata* L. and several butterfly species that were also mentioned in the citation. Argent and Sable was last recorded in 1984, although it lingered on for one more year in Waterperry Wood (VC 23: Oxfordshire) where the last recorded specimen was seen on 1 June 1985.

My thanks for their help go to Martin Albertini (County Moth Recorder, VC 24), Steve Carter (Forestry Commission), Jon Clifton, Brian Goodey, Peter Hall, Martin Honey (Natural History Museum), John Langmaid and Martin Townsend.— DAVE WILTON, 25 Burnham Road, Westcott, Aylesbury, Buckinghamshire HP18 0PL (E-mail wilton@burnhamlodge.plus.com).



**Plate 5.** *Cydia indivisa* Danilevsky ♂ Oakley Wood, Buckinghamshire. 4.vi.2010. leg. D. Wilton.



**Plate 6.** *Cydia indivisa* Danilevsky ♂ genitalia. Oakley Wood, Buckinghamshire. 4.vi.2010. leg. D. Wilton.

***Gastrophysa viridula* (De Geer) (Col.: Chrysomelidae) does still occur in Kent**

This generally common and widespread British species is surprisingly scarce in south-east England; so much so that I was prompted to list the very few Kent and East Sussex finds when I recorded it new to West Sussex (Jones, 2001. *Ent. Rec.* 113: 130). The distribution map given by Cox (2007. *Atlas of seed and leaf beetles of Britain and Ireland (Coleoptera: Bruchidae, Chrysomelidae, Megalopodidae and Orsodacnidae)*. Pisces Publications) shows a broad, but predominantly western spread and Kent, usually a county awash with insect records, looks rather empty. Although having seen it in profusion in Wales and the West Country many times, I have not found the beetle in the south-east since discovering it near Lewes in 1975. I was, therefore, very pleased to sweep several examples near Ashford on 9 June 2008. The site was a relatively unremarkable area of former grazing meadow, just inside the A2070 road south of Ashford, O. S. grid reference TR 032406, vice-county 15, (East Kent). Also found at the site were: *Clivina fossor* (L.), 11 May 2008; *Microplontus triangulum* (Boheman), 11 May 2008; *Longitarsus dorsalis* (Fabricius), 11 May 2008; *Polydrusus formosus* (Mayer), 9 June 2008; *Scaphidema metallicum* (Fabricius), 9 June 2008 and *Zacladus exiguus* (Olivier).— RICHARD A. JONES, 135 Friern Road, East Dulwich, London SE22 0AZ (E-mail: bugmanjones@hotmail.com).

**The Vapourer *Orgyia antiqua* L. (Lep.: Lymantriidae), on the Channel Islands**

During the period of 24-27 October 2008 the Rothamsted Insect Survey light trap at Trinity on Jersey (site 547) caught the second example of *Orgyia antiqua* for the island. This record followed 16 years after the first, which was of a larva seen by Roger Long at Red Houses on 21 August 1992 which, given that females are flightless, is very likely to have ballooned in from elsewhere. Roger also produced the third record, a male found at Creux Baillot on 4 August 2009. In 2010, Keith Tailby and three colleagues trapped two males on L'Ouaisné Common on 7 October and the following day a further two were caught about 14km away in St Catherine's Woods.

*O. antiqua* is widespread across not just mainland Britain and Europe, but also throughout the Holarctic region (Heath & Emmet, 1979. *Moths and Butterflies of Great Britain and Ireland* 9. Harley Books), where the larvae feed upon a wide variety of deciduous trees and shrubs. It is therefore very surprising that it is not found more frequently on the Channel Islands. It has not yet been found on Guernsey, but several have been noted by David Wedd on Alderney, where one or two males a year have been seen for a number of years, flying in the streets of St. Anne (D. Wedd, *pers. comm.*). He has also twice found larvae in gardens. This suggests that, at least on Alderney, *O. antiqua* is much commoner than previously thought, and that the island retains a small population. Since the female moths are



flightless, small larvae would have had to balloon in from populations on the continent. So, as long as the species arrived naturally, it is likely that the island's close proximity to France played an important role in its colonisation of Alderney. It could be from here that the 1992 Jersey larva originated, although Jersey is closer to the mainland than it is to Alderney. Indeed, the four most recent Jersey records came after a period of south and south-easterly winds, suggesting that they could have been migrants. *O. antiqua* may be more common on the Islands than records currently suggest, due to a lack of people recognising the males in flight (D. Wedd, *pers. comm.*). It will be interesting to see if records for this species increase across the islands in future years.

Many thanks to Roger Long for help regarding Jersey records, to David Wedd for Alderney information and comments and to Rich Austin for confirming the absence of *O. antiqua* records on Guernsey. Thanks also to Alex Vautier for her hard work operating the trap.— PHILIP J. L. GOULD, Co-ordinator of the Rothamsted Insect Survey Light-trap Network, Plant & Invertebrate Ecology Department, Rothamsted Research, Harpenden, Hertfordshire AL5 2JQ (E-mail: phil.gould@bbsrc.ac.uk).

#### **A belated record of *Elaphropus* (formerly *Tachys*) *parvulus* (Dejean) (Col.: Carabidae) from West Sussex**

On 30 July 2003, I was pleased to find a single specimen of this scarce little beetle by splashing the muddy banks of a marshy area, probably a former cattle pond, in one of the grazing meadows near Ifield, Crawley, O. S. grid reference TQ 458341, West Sussex (VC 13). This was the first time that I had come across this species in its 'natural' habitat, having previously found it on several living roofs in central London (Jones, 2002. *Ent. Rec.* 114: 170-171). Incidentally, it was still present on one of these roofs, Canary Wharf, TQ 374804, on 6 July 2005 (specimen supplied by G. Kadas). *E. parvulus* is a scarce species, with scattered distribution, and this appears to be the first record for the vice-county (Luff, 1998. *Provisional atlas of the ground beetles (Coleoptera, Carabidae) of Britain*. Biological Records Centre).— RICHARD A. JONES, 135 Friern Road, East Dulwich, London SE22 0AZ. (E-mail: bugmanjones@hotmail.com).

#### **Two unusual macro-moth records from Buckinghamshire**

During the night of 21 August 2010 a twin 30-watt actinic Robinson trap run in my garden brought in the usual fare for the time of year, comprising 38 macro-moth and 22 micro-moth species. This included single examples of the Diamond-back Moth *Plutella xylostella* (L.) and Dark Sword-grass *Agrotis ipsilon* (Hufn.), both of which have migratory tendencies, although neither is a particularly unusual occurrence at this location. However, one unexpected visitor

to the trap was a Small Elephant Hawk-moth *Deilephila porcellus* (L.). The species was a regular visitor to the garden earlier in the year with 14 individuals being recorded between 28 May and 30 June. The available literature gives its normal flight season as being from May until July. I have had several July records in recent years, the latest being 25 July (2007), but never a sighting in August, although there is one previous Buckinghamshire record from Coombe Hill in the Chilterns on 17 August 1984 (Martin Albertini, pers. comm.). My moth was in very good condition so is thought unlikely to have been a long-lived survivor from the first brood. It could have been an attempt at a second brood (the species is bivoltine in France) or maybe an aberrant late emergence. It could equally have been a migratory specimen and it would be interesting to know if *D. porcellus* has ever been recorded elsewhere in the UK so late in the year.



**Plate 7.** *Atethmia centrigo* (Haw.) Aylesbury, Buckinghamshire, 5.ix.2010, leg. D. Wilton.

Amongst more than two dozen examples of Centre-barred Sallow *Atethmia centrigo* (Haw.) at a 125-watt MV Robinson trap on 5 September 2010 was a single odd-looking but pretty individual which had the forewings almost entirely suffused with reddish scales (Plate 7). Although this form is apparently extremely rare in Britain, Colin Plant informs me that in southern Europe, especially the Balkans, this is actually the expected form and our yellow forms are excessively rare. Could this example have originated in Europe? The location was Pilch

Fields, near Great Horwood, Buckinghamshire – three unimproved meadows belonging to the Bucks, Berks & Oxon Wildlife Trust.— DAVE WILTON, 25 Burnham Road, Westcott, Aylesbury, Buckinghamshire HP18 0PL

***Valenzuela atricornis* McLachlan (Psocoptera: Caeciliusidae) new to Leicestershire and the East Midlands**

Specimens of the distinctive barkfly *Valenzuela atricornis* were swept from an expanse of fen vegetation dominated by *Glyceria maxima* along a back channel in the floodplain of the River Soar at Lockington Marshes SSSI (O. S. grid reference SK 4830) on 12.xi.2009. This species is very much a speciality of tall fen vegetation and can occur in large populations when present. It is not therefore readily overlooked – although this order of insects appears badly neglected by most entomologists. The distribution maps of modern records ([www.brc.ac.uk/schemes/barkfly/](http://www.brc.ac.uk/schemes/barkfly/)) presently (December 2010) show a complete lack of records across much of the Midlands, with the closest sites about 100km away along the Humber to the north, Cambridgeshire to the east and Gloucestershire to the south.— KEITH N. A. ALEXANDER, 59 Sweetbrier Lane, Heavitree, Exeter EX1 3AQ (Email: [keith.alexander@waitrose.com](mailto:keith.alexander@waitrose.com)).

***Philophorus cinnamopterus* (Kirschbaum) (Het. Miridae) in Edinburgh – a new species for Scotland**

A co-ordinated 'BioBlitz' was held at Hollyrood Park, Edinburgh, on 15 and 16 August 2009. This event, organised by British Trust for Conservation Volunteers Scotland (BTCV Scotland) and Historic Scotland, was part survey and part public outreach with a headline aim of recording as many species of wildlife as possible in 24 hours. On the afternoon of the first of these dates, I beat a number of Hemiptera from trees alongside Hunter's Bog (O. S. grid reference NT 273733). One of these, beaten from a small Scots Pine *Pinus sylvestris*, I later identified as an adult *Philophorus cinnamopterus*. The specimen is retained in my collection.

*P. cinnamopterus* is thought of as a southern British species. Saunders (1892, *The Hemiptera Heteroptera of the British Isles*, L. Reeve & Co., London) cites records of the species from Norfolk, the London area and from near Cardiff, whilst Southwood & Leston (1959, *Land and Water Bugs of the British Isles*, Frederick Warne & Co. Ltd., London) give the range as being south of a line from the Wash to Glamorgan. However, there are a handful of more recent



records from further north; the species was recorded at Hatfield Moors in South Yorkshire in 2004 by the late Peter Skidmore and John Flanagan took a specimen in Derbyshire in around 2007. The Edinburgh specimen reported here is the first for Scotland.

Recent Scottish records of the presumably long-established Juniper Shieldbug *Cyphostethus tristriatus* (*Het News*, 2nd series, no. 9: 11-12; *Ent. Rec.* 121: 5-6; *Ent. Rec.* 122: 154) show that even very distinctive species may have been overlooked. It is plausible that *P. cinnamopterus* may also have been overlooked. If, on the other hand, it is recently arrived in Scotland then, alongside natural range expansion, accidental importation must be considered a possibility, especially given the urban surroundings to the recording site.

My thanks go to John Flanagan, Bernard Nau, Stewart Rivers, Joe Muir, Ruth Mitchell and Ben Moore for useful input.— NICK A. LITTLEWOOD, Macaulay Land Use Research Institute, Craigiebuckler, Aberdeen, AB15 8QH (Email: n.littlewood@macaulay.ac.uk).

### First instar *Chorthippus brunneus* (Thunberg) (Orth.: Acrididae) in October

For a few days from 8 October 2010 when the temperature on sunlit days reached around 20°C, I put out a yellow pan trap, kindly donated by David Baldock, on the greensward in my garden at Welwyn. Among the calypterate flies that dominated the catch was a first free instar of the Common Field Grasshopper *Chorthippus brunneus* which had leapt into the 6 cm deep bowl.

Ragge (1965. *Grasshoppers and Crickets of the British Isles*) explained the diapause of acridid grasshoppers thus: 'After the eggs are laid they undergo a certain amount of development (until the pink colour of the eye rudiments is visible) and then enter a resting phase. This is the stage in which they pass the winter. The resting phase comes to an end before the end of the year and further development is prevented only by the low outdoor temperatures. If egg pods obtained in captivity are kept at outdoor temperatures and 'watered' periodically during the autumn, they can be made to hatch at the end of the year simply by transferring them to a warm environment. At 25°C (77°F) hatching will take place after two or three weeks of this incubation...'

In the case of the unfortunate drowned larva either development had not been interrupted by a diapause or the sequence described by Ragge may have been compressed and completed in an unusually short time for an egg pod laid at an early date. Are there any other instances known of untimely hatching of acridid larvae?— RAYMOND W. J. UFFEN, 4 Mardley Avenue, Welwyn, Hertfordshire AL6 0UD.

**Late records of an aberrant *Miltochrista miniata* (Forst.) Rosy Footman and *Eilema depressa* (Esp.) Buff Footman (Lep.: Arctiidae) in Dorset (VC 9)**

It may be of interest to record that singletons of *Miltochrista miniata* (Forst.) Rosy Footman and *Eilema depressa* (Esp.) Buff Footman were taken at 125-watt MV light on the night of 1.x.2010. Both species are traditionally regarded as being single-brooded in Britain, flying from Mid-June (*M. miniosa*) and July (*E. depressa*) to the end of August. Apart from the unusually late date of these records, the Rosy Footman also clearly has asymmetric wings with the right forewing noticeably larger than the left.— LESLIE J. HILL, 48 East Lodge, East Lulworth, Wareham, Dorset BH20 5QL.

## BOOK REVIEW

**Provisional Atlas of the UK's Larger Moths** by Les Hill, Zoë Randle, Richard Fox and Mark Parsons. 454 pp., 297 x 210 mm (A4), paperback, ISBN 978-0-9562216-4-3. Butterfly Conservation, 2010. £20 plus £5 p&p, via web site at [www.butterfly-conservation.org](http://www.butterfly-conservation.org) or from the publisher at Manor Yard, Lulworth, Dorset BH20 5QP.

At last! The last time we saw any distribution maps for any of Britain's larger moth species was in the pages of the hopelessly antiquated early volumes of *Moths and Butterflies of Great Britain and Ireland* (Harley Books) – with noctuids covered in two parts in 1979 and 1983 then some smaller families in 1991. These maps are not only ridiculously out of date, but also contained a huge number of unverified records of which a great many were simply wrong. As far as I am aware there has *never* been a set of distribution maps for British Geometridae. So this new Atlas is a very welcome addition indeed to the library. The briefest of introductions (the first five of the 454 pages) gives way immediately to the 867 distribution maps which are presented two per page in landscape format.

All species currently regarded as 'macros' by British Lepidopterists are included. For the benefit of European readers, who have a different definition of 'macro', this includes the Hepialidae and Cossidea but does not involve the Psychidae. The maps are derived from data submitted to the National (macro) Moth Recording Scheme (NMRS) via the network of County Moth Recorders. The introduction proudly states that in order to ensure complete accuracy 'No records have been contributed directly by individual recorders or via national schemes such as the Rothamsted Insect Survey of the Garden Moths Scheme'. This is as it should be – so has it worked?

The answer is a qualified 'yes', though for species such as the Fiery Clearwing *Pyropteron chrysidiformis* (Esper) the inclusion of results from specific studies

that have clearly not reached the county recorder network would have produced a significantly different map. With over 11.3 million moth records it would be surprising in the extreme if a few errors did not creep in and I suggest as candidates the dot for Water Ermine *Spilosoma urticae* (Esper) in Scotland (presumably an issue of synonymy) and another for Sloe Carpet *Aleucis distinctata* (H.- S.) in Shropshire. These are unfortunate, since although both jump out of the page and clearly shout 'I am wrong' to the reader, one then necessarily wonders what other, less obvious errors might have crept in. What is one to think, for example, of the four open circles for Plumed Prominent *Ptilophora plumigera* (D.& S.) in the extreme north-east of England – well away from the south-east England population?

My other criticisms are perhaps less relevant to those who will use this book for reference. I note for example that in slavishly following the MapMate (computer software) checklist they seem to have retained *Schrankia intermedialis*, which was proved several years ago by DNA sequencing to be a hybrid and not a valid species (see Anderson, et al, 2007. *Molecular Ecology Notes* 7: 374-376 and summary by Gould, 2007. *Ent. Rec.* 119: 193-194). Whilst this is not a taxonomic review and I fully expect names in current use to be used, I think it is unfortunate that Northern Arches and the Exile are lumped under a single heading of 'Apamea zeta' in spite of the fact that it is now five years since *Noctuidae Europaeae* volume 8 showed us that the Northern Arches is *Apamea assimilis* subspecies *assimilis* and the Exile is a quite different, circumboreal species called *Apamea groenlandica* (*Apamea zeta* is found in the Pyrenees, The Alps, The Apennines, and various parts of the Carpathian Mountain ranges). The authors also retain the incorrect name *Hadena luteago* for the Marbled Coronet rather than the correct name of *Hadena andalusica* – the two are quite different species with *H. luteago* not affecting Britain (see *Noctuidae Europaeae* volume 4, page 98).

These are, however, minor hiccups errors that do not affect the overall high value of the publication. Perhaps now that we at last know how widespread the species are we can more sensibly reassign conservation status categories to our larger moths. It seems ludicrous to me, as one involved in environmental assessment work, that common species such as the Cinnabar Moth *Tyria jacobaeae* (L.) are included in the UK Biodiversity Action Plan, causing me to advise local authorities that they are required to take measures to protect its habitat even though its foodplant is a notifiable weed species which that same local authority is obliged to eliminate. At the same time, a number of moths that these new maps show to have declined, in terms of distribution, are not included in any list and may be merrily bulldozed to make way for new 'developments'.

Published as a limited edition of 600 copies on 17 December 2010 it was, not at all surprisingly, out of print by 17 January 2011 and an extensive reprint is under way as I pen this review. If there is a moth enthusiast in Britain who does not want a copy of this I will be very surprised.



## **DNA SEQUENCING SCOTTISH PINE-TREE LAPPETS – AN APPEAL FOR MATERIAL**

We are using DNA sequencing and microsatellite markers in an attempt to identify whether Scottish Pine-tree Lappet moths *Dendrolimus pini* (L.) represent a hitherto unknown native Scottish population or a more recent colonisation from elsewhere in Europe. In order to do this we need to source additional samples of Pine-tree Lappet moths from across its distribution range. This will allow a comparison to be made between the DNA of these and the Scottish moths. If you have access to any suitable *Dendrolimus pini* specimens from sites anywhere in southern Europe it would help me a great deal if you could send me either the moths or, if you prefer not to part with your specimens, two legs (which are best sent together in a small paper triangle – one triangle for each moth specimen). Please ensure that all material sent is labelled with locality information and year of capture as a minimum. The best way to preserve **fresh** moths or caterpillars during 2011 is to put them directly into clean tubes in 100% ethanol. Material killed by freezing is preferable to material killed chemically, though it is accepted that many specimens fall into the latter category. Material that has been dried would also be acceptable provided the material has not been stored for more than twenty years . We are happy to make the sequence information that we derive from your samples available to you if you wish. — JOAN COTTRELL CHES, Forest Research, Northern Research Station, Roslin, Midlothian, Scotland EH25 9SY (E-mail: [joan.cottrell@forestry.gsi.gov.uk](mailto:joan.cottrell@forestry.gsi.gov.uk)).

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**The earliest known British mainland record of Jersey Mocha *Cyclophora ruficiliaria* (Herrich-Schäffer) (Lep.: Geometridae) in Dorset in 1996**

I spent 18 to 21 August 1996 in Dorset, at the height of the exceptional immigration of Lepidoptera to Britain which took place that year, and in particular in that month, for the three nights staying at a B&B just east of Worth Matravers (O.S. grid reference SY 979777). My host, an amateur astronomer, kindly allowed me to run my single Robinson-pattern MV light trap on the rough open calcareous grassland sloping down to the sea-cliffs some 1 km away, utilising the power supply of an old observatory. On 18 August, a single worn male *Cyclophora* species was among a large and varied catch. At the time, I concluded that this was a worn example of the variable Blair's Mocha *C. pupillaria* (Hb.) but (fortunately) retained the specimen. Recent reference to Hausmann (2004, *The Geometrid moths of Europe*. Apollo, Stenstrup) suggested that it might be *Cyclophora ruficiliaria*, and this identity was confirmed by dissection.

*Cyclophora ruficiliaria* was unknown in the British Isles until 2002, when it was recorded from Jersey (Wedd, 2003. New moth records. *Atropos* 19: 73). Subsequently it has been recorded there in numbers, and misidentified specimens have been found dating back to 1917 (Wedd and Long, 2003. Jersey Mocha *Cyclophora ruficiliaria* (H.-S.). *Atropos* 20: 31-32). *C. ruficiliaria* was first recorded from the British mainland by Chainey (2004. *Atropos* 23: 13-14) a gravid female at Portland, Dorset on 19 July 2003, from which larvae and adults were obtained. More recently, regular records from the south coast of England, summarised by Waring, Townsend and Lewington (2009, *Field Guide to the moths of Great Britain and Ireland*, 2nd edition. British Wildlife, Milton-on-Stour) and Skinner (2009, *Colour Identification guide to moths of the British Isles*, 3rd edition. Apollo, Stenstrup) suggest that it is established very locally.

The genitalia of *C. ruficiliaria* and *C. pupillaria* are compared and illustrated by Hausmann (*loc. cit.*) and Townsend, Clifton and Goodey (2010, *British and Irish moths: an illustrated guide to selected difficult species*. Butterfly Conservation, Wareham). The male genitalia of *ruficiliaria* are characterised among the European *Cyclophora* by the valva, which has a narrow club-like fibula and lacks a broad ventral process. In *pupillaria*, the fibula is bent and not clubbed.

My earlier determination was no doubt partly influenced by the dark ring still visible around the discal spot on the hindwings, and the generally poor condition of the moth. *C. pupillaria* normally has a dark ring around the discal spot on both fore- and hindwing although this may be weak (Waring *et al. loc. cit.*) and therefore easily lost. Hausmann (*op. cit.*) states that although *ruficiliaria* usually has the discal spots white and un-ringed, they may be thinly darkly ringed on the hindwing. The latter feature had not, to my knowledge, been mentioned in any British publication prior to Townsend *et al. (loc. cit.)*. However, it can be seen on the Figure 29 of Chainey (*loc. cit.*) and Figure 25 of Wedd and Long (*loc. cit.*). It may be significant that both of these are second brood moths.

There is nothing to suggest that the Worth Matravers specimen was anything other than an immigrant. A total of 12 immigrant species were recorded over the three nights, also including Oak Processionary *Thaumetopoea processionea* (L.) (1), *Cydia amplana* (Hb.) (2) and *Loxostege sticticalis* (L.) (1). The weather was hot with a fresh to strong wind throughout from a southerly quarter. The records were sent to the county recorder, and the more noteworthy immigrants are listed by Skinner and Parsons (1999, The immigration of Lepidoptera to the British Isles in 1996. *Ent. Rec.* 111: 153-183). The record of *C. pupillaria* listed therein (the only one for that year) is therefore in error. It seems very possible that other earlier specimens of *C. ruficiliaria* lie undetected in collections, but the apparent colonisation of southern England by this species would appear to be very recent. — MARTIN TOWNSEND, 26 Bartholomew Road, Oxford OX4 3QQ (E-mail: martin.townsend4@ntlworld.com).

### **Edinburgh Pug *Eupithecia intricata millieraria* (Wnukowsky) (Lep.: Geometridae) – is this goodbye?**

In Britain, *Eupithecia intricata* has traditionally been represented by two subspecies, each with its own vernacular name. In Scotland there was Edinburgh Pug *E. i. millieraria*, a smaller and browner race associated with native Juniper *Juniperus communis*, being particularly numerous in the Highlands where that shrub forms much of the under-storey in the ancient Caledonian pine forest. However, it occurs frequently in a Kingussie (East Inverness-shire) garden where it is apparently using cypresses (Tom Prescott, pers. comm.). In southern Britain there was Freyer's Pug *E. i. arceuthata* (Freyer), a larger and more fawn-coloured race most commonly associated with exotic cypresses *Cupressus* and *Chamaecyparis* in suburban gardens, but which also feeds on Juniper.

The distribution maps in Riley, A. M. & Prior, G., (2003. *British and Irish Pug Moths*. Harley Books.) show a clear separation between the two subspecies when the maps were compiled in the late 1990s. Freyer's Pug reached only to South Lancashire VC59 in the west and North-east Yorkshire VC62 in the east. The southern limit of Edinburgh Pug was Argyll VC98 in the west and North Northumberland VC68 in the east. Thus there was a gap where neither subspecies had been recorded, made up of seven northern English vice-counties plus the whole of south-west Scotland. Clearly the two subspecies were biologically distinct and geographically separate.

That is no longer the case. In June 2009, Marco McGinty posted images of several unidentified pugs from Largs, Ayrshire on the Scottish Moths Forum website. They were pale and lightly marked, closely resembling Freyer's Pug from southern England. The habitat was a suburban garden where three 25-year old cypresses were present. Subsequently I have seen images of similar moths from NE England, the Scottish Borders and even Edinburgh itself (per Calum Scott).

The National Moth Recording Scheme's *Provisional Atlas of the UK's Larger Moths* (Hill, L, Randle, Z., Fox, R. & Parsons, M., 2010. Butterfly Conservation,



Wareham, Dorset) confirms that the distributions of Freyer's Pug and Edinburgh Pug have now merged, especially in the east. I suspect this has resulted from Freyer's Pug advancing rapidly northwards, rather than any southwards spread by Edinburgh Pug. It seems likely that a zone of hybridisation will result, at least in the short term. Already I have seen apparent intermediates. In the longer term we may end up with a cline. This will cause problems with the vernacular names, which at present refer to subspecies rather than to the species itself. *Eupithecia intricata* lacks an English name.

Finally, Mironov (2003. *The Geometrid Moths of Europe*, vol. 4. Apollo Books, Stenstrup) downgrades Edinburgh Pug to f. *millieraria* rather than a subspecies, but in any case considers it identical to f. *helveticaria* Boisduval from the Alps. One way or another, this looks like the beginning of the end for Edinburgh Pug! — ROY LEVERTON, Whitewells, Ordiquhill, Cornhill, Banffshire AB45 2HS.

### **Winter Moth *Operophtera brumata* (L.) (Lep.: Geometridae) males surviving prolonged snow cover**

At my home address in Banffshire, male Winter Moths *Operophtera brumata* were regularly seen at lighted windows during the first three weeks of November 2010. Thirteen were counted on the night of 22 November, when the temperature was 4°C and falling. A prolonged period of severe weather began on the 24 November, lasting until 10 December 2010. Snow cover soon built up to an average depth of around 45 cm and temperatures regularly fell as low as minus 10°C at night.

Even so, when the thaw came it was rapid, due to mild south-westerly winds. The night of 12 December 2010 was still and damp. Although the temperature was only 3°C, this felt positively balmy by comparison with what had gone before. I even ventured to put out sugar, predictably attracting Satellite *Eupsilia transversa* and Chestnut *Conistra vaccinii*, though a Sword-grass *Xylena exsoleta* was unexpected. Also, ten male Winter Moths appeared on our lighted windows, nearly as many as before the cold spell. None appeared to be newly emerged. All were worn and faded to some extent. Was it possible they had survived over two weeks of deep snow cover and very low temperatures?

The milder interlude was brief. Severe weather returned on 15 December, though this time the snow cover reached only 25cm and minus 9°C was the lowest temperature recorded. A slow thaw began on 27 December. The night of 29 December was once more still and damp, though only 3°C. Sure enough, six male Winter Moths appeared at the windows. All were clearly worn, some considerably so. It seemed certain that they had survived the last cold spell, and possibly the previous one too. If so, they must have been on their last legs, because none appeared the following night despite the temperature being 5°C, with Satellite and Chestnut again at sugar.

Where do Winter Moths roost? Despite their abundance here, I have never found a male during the day, or even disturbed one by chance. Thus it seems

unlikely that they rest exposed on tree trunks, walls or fences. Those attracted to our house lights have always gone by morning. Presumably males spend the day at or near ground level, hidden in the leaf litter. If so, unless crushed by its weight, they would have been relatively safe beneath the deep snow, and insulated from the extreme low temperatures. — ROY LEVERTON, Whitewells, Ordiquhill, Cornhill, Banffshire AB45 2HS.

### ***Bucculatrix nigricomella* (Zell.) (Lep.: Bucculatricidae) feeding in February**

*Bucculatrix nigricomella* is another example (see Homan, 2010. *Ent. Rec.* 122: 279-280) within the British Bucculatricidae where published information concerning phenology lacks clarity. Emmet (1985. In *Moths and Butterflies of Great Britain and Ireland* vol 2) notes that larva is said to occur in March to April and in July, with the stage at which the insect passes the winter being unknown. This description is repeated on various web sites including UKMoths (<http://ukmoths.org.uk/>) and Bladmineerders van Europa (Leafminers of Europe) ([www.bladmineerders.nl/](http://www.bladmineerders.nl/)), while the British Leaf Miners web site ([www.leafmines.co.uk/](http://www.leafmines.co.uk/)) has the mine from January to April and July.

On 11 February 2011, I found a tenanted mine of this species in a leaf of *Leucanthemum vulgare* growing on the track-bed of a disused railway in Cheltenham. The larva in this mine was 2.5 mm in length, appearing golden-yellow with a pale brown head and pro-thoracic plate. There was no spiral at the start of the mine, which was marked instead by a small hole near the base of the leaf. The larva had then mined down into the petiole before returning back in the leaf blade, forming a mine which was overall in the shape of a question mark with the larva observed in the curved area. The majority of the mine was full depth and its maximum width was 0.8 mm with uneven edges where the larva had turned its head from side to side while feeding. The presence of the hole at the start of the mine indicated that the larva had changed from one leaf to another.

On returning home, I looked at a large clump of Shasha Daisy *Leucanthemum x superbum* growing in my garden. *Bucculatrix* mines were evident here and one example had the following characteristics: overall length – 6.5 cm.; maximum width – 0.5 mm; length of larva – 3.4 mm. In this example the mine started with a dark cloudy area, but it was not possible to determine the presence of a spiral of frass. The larva had mined downwards towards the petiole and then returned back into the leaf blade. Given the thicker nature of the leaf of this daisy in comparison with that of *Leucanthemum vulgare* the finer details of the larva were obscured, although its golden-yellow colour was readily apparent.

These examples, although drawn from a very limited geographical area, suggest that *nigricomella* passes at least the later part of the winter in a larval state. Having established that the insect is present in my garden it might be possible later in the year to observe the autumn and early winter stages. — ROBERT HOMAN, The Apiary, Swindon Lane, Cheltenham, Gloucestershire GL50 4PD.

**Broad-bordered White Underwing *Anarta melanopa* (Thunberg) (Lep: Noctuidae) records in the central Southern Uplands, including a first record for Selkirkshire (Vice-county 79)**

The Broad-bordered White Underwing moth *Anarta melanopa* is a montane species at the southern edge of its UK range in the south of Scotland. Before 2010, there were only two records of in the Southern Uplands. In 1962 Derek Ratcliffe saw several at altitudes above 700m in the White Coomb area of the Moffat Hills on both sides of the watershed boundary between vc72 Dumfriesshire and vc78 Peeblesshire (Ratcliffe, 1964, *Ent. Mon. Mag.* **100**: 209). In 2002, Greg Fitchett found two at an altitude of about 800m on the Tweedsmuir Hills between Dollar Law and Broad Law in vc78 Peeblesshire (2002, National Moth Recording Scheme data).

On a warm, sunny day on 3 June 2010, I searched for the species on Dun Rig, Glenrath Heights, which at 744m is the highest hill in vc79 Selkirkshire. On attaining the summit ridge at a height of 710m (O.S. grid reference NT 248309) I found several individuals flying over the prostrate heather. Traversing the gently ascending slope between this point and the summit (at NT 254316) I saw a total of about 20 individuals flying in their typical low-level darting manner. Most of the moths seen were slightly worn. This was the first record of the species in vc79 Selkirkshire. The habitat of the summit slope is dry, windswept montane heath dominated by Heather *Calluna vulgaris* growing in prostrate manner with prominent mats of bilberry *Vaccinium myrtillus*.

Over a 38 year period, Broad-bordered White Underwing has now been found at three sites in the Tweedsmuir and Moffat Hills area of the central Southern Uplands and it is likely that it will be present in the few other sites in this area above about 700m. However, the highest point of the central Southern Uplands is the summit of Broad Law at only 840m and there is therefore very little suitable montane habitat for the species in this area. It will be interesting to see over the next few decades whether Broad-bordered White Underwing can maintain its presence in the central Southern Uplands as a consequence of continued climate warming.

I would like to thank Jeff Waddell for suggesting a visit to the Dun Rig site and for discussing the content of this note. — MALCOLM LINDSAY, Burn House, Mossilee Rd., Galashiels, TD1 1NF (E-mail: malcandles@tiscali.co.uk).

**Further records of Platygastriidae (Hym.: Platygastroidea) from the Isle of Man**

Since Buhl & Bennett (2009. Records of Platygastriidae (Hym.: Platygastroidea) from the Isle of Man, with descriptions of three new species. *Ent. Rec.* **121**: 89-99) recorded 59 platygastriid species from the Isle of Man, the second author has continued to collect and send material to the first author for determination. About ten additional species that have been discovered (a few are doubtful) are listed below as well as notes on the bionomics for a few species already recorded from the island.



- Euxestonotus pini* (Debauche). Laxey, Baldhoon Rd., (SC 4284), 15.05.2010, one female in yellow pan trap under sycamore; 12-19.06.2010, one female in white pan trap under sycamore. New UK record. Belgium, Denmark.
- Leptacis coryphe* Buhl. Laxey, Baldhoon Rd., 09-14.09.2008, one female in yellow pan trap on new grass heap; 25-26.09.2008, two males in yellow pan trap. England, Ireland, Scandinavia.
- Platygaster* cf. *inermis* Walker. Laxey, Baldhoon Rd., 09-10.10.2010, one female in white pan trap. This single specimen differs slightly from typical *P. inermis* in the shape of the metasoma, but it probably does belong to this species which is known also from England, Ireland and Scandinavia.
- Platygaster pelias* Walker. Douglas Civic Amenity Centre (SC 365755), 04.06.2009 in cecidomyiid larva in hawthorn (*Crataegus monogyna* Jacq.), one female reared 30.04.2010. Also recorded by Buhl & Bennett (2009), but hawthorn is a new host plant for this species (hitherto known from *Rubus* sp.).
- Platygaster* cf. *splendidula* Ruthe. Laxey Glen Gardens (SC 4284), 10-17.05.2010, one female in yellow pan trap near beech stump. *P. splendidula* was recorded by Buhl & Bennett (2009), but there is a complex of similar species around it, and the present specimen could belong to a new species.
- Platygaster tubulosa* Brues. Laxey, Baldhoon Rd., 10-11.09.2009, one female in yellow pan trap on new grass heap; 12.09.2010, one female in white pan trap. Worldwide distribution.
- Platygaster* cf. *zigrida* Buhl, 2010. Laxey, Baldhoon Rd., 02-03.06.2010, one female in white pan trap under sycamore. *P. zigrida* has been recorded from Latvia and Denmark, but there is a complex of similar species around it, and the present specimen probably belong to a new species with e.g. slightly wider and stronger setose metasoma than in *P. zigrida*, but further material is necessary.
- Synopeas aceris* Buhl & Bennett. Recorded by Buhl & Bennett (2009), but numerous further specimens (17 females, 62 males) have now been seen from the type locality (Laxey, Baldhoon Road) associated with sycamore. It seems that the emergence of males commences slightly earlier than that of the females, around 1 May, but even as early as the end of March, and does not occur later than mid May, whereas the emergence of females usually commences well into May (very rarely in the last days of April) and continues into the first days of June. The sex ratio of the present additional material is about 1:4 (females: males), in the type material the corresponding numbers were about 1:24, but in both cases a single large clutch of males strongly influenced the outcome. However, collections to date suggest that males are much more numerous than females.
- Synopeas breve* Buhl. Laxey, Baldhoon Rd., 10-11.09.2009, one female in yellow pan trap. Ireland and continental Europe.
- Synopeas craterus* (Walker). Laxey, Baldhoon Rd., 12.09.2010, one female in yellow pan trap. Rather common in England, Ireland and continental Europe.

*Synopeas jasius* (Walker). Laxey, Baldhoon Rd., 12-19.06.2010, one female in white pan trap under sycamore; 12.09.2010, 10 females in white pan trap. Uncommon in England, Ireland and continental Europe.

*Synopeas lugubre* Thomson. Laxey, Baldhoon Rd., 02-03.05.2001, one male in yellow pan trap. Rather common in England, Ireland and continental Europe.

*Synopeas manense* Buhl & Bennett. Laxey, Baldhoon Rd., 25-26.09.2008, one female in yellow pan trap. Hitherto only known from the holotype from the same locality.

*Synopeas ventrale* (Westwood). Laxey, Baldhoon Rd., 21-23.08.2009, one male in yellow pan trap on new grass heap. England and continental Europe from Scandinavia to Spain.

*Trichacis pisis* (Walker). Laxey, Baldhoon Rd., 25-28.02.2009, one male in yellow pan trap. Also recorded by Buhl & Bennett (2009), but only in April. The present specimen is a remarkably early occurrence.

Card mounted voucher specimens for our new records will be deposited in the Manx Museum. — P. N. BUHL, Trolldhøjvej 3, DK-3310 Ølsted, Denmark (e-mail: platygaster@mail.dk) & F. D. BENNETT, Crofton, Baldhoon Road, Laxey, Isle of Man, IM4 7NA (e-mail: fdb@manx.net).

## BROWNFIELD MOTH SPECIAL – CALL FOR CONTRIBUTIONS

The high value of brownfield sites (especially post-industrial sites) for invertebrates is well known, but whilst we know quite a bit about bees and wasps, and to a lesser extent beetles, there is little published on the value of brownfield habitats for moths. This journal wishes to redress this imbalance with a dedicated special issue.

There is no single brownfield habitat type – they range from post-industrial sites in the East Thames Corridor to urban playing fields in Scotland, motorway embankments in urban areas, roundabouts, margins of car parks and many other places. **We positively invite both short Notes and longer Papers on any area of interaction between moths and brownfield sites.** Anything to do with ‘living roofs’ is especially welcomed as are ‘unusual aspects’ (e.g., moths recorded in pitfall traps). For the present exercise ‘normal’ gardens are excluded, but a ‘non-garden’ trap site in a heavily urban area with no surrounding gardens might qualify, as will traps on balconies or the roofs of tower blocks. Use your judgement.

Unlimited black and white photos welcomed. Colour photos wanted if important – habitat shots take priority over species. Please e-mail contributions to the Editor on [cpauk1@ntlworld.com](mailto:cpauk1@ntlworld.com).

**STAGES OF *OLETHREUTES ARCUELLA* (CLERCK, 1759)  
(LEP.: TORTRICIDAE)**

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**Abstract**

An account is given of rearing *Olethreutes arcuella* (Clerck, 1759) from ova. Differences between published descriptions of the larva and those resulting from these ova are noted as well as certain differences in biology.

**Key words:** Lepidoptera, Tortricidae, *Olethreutes arcuella*, ovum, larva, foodplants, biology.

**Introduction**

*Olethreutes arcuella* is quite a local species in the British Isles that is usually found in broad-leaved woodland, but it also occurs on heathland. I have not been able to find any published first-hand account of the larva being found in the British Isles and it seems that that larval descriptions and accounts of the biology in the British literature have been derived from mainland European sources.

In 2010 I reared the species from ova laid by a captive female that I had caught in 2009. As is often the case, the early instar larvae differed in appearance from the later instars. The final instar also differed in some respects from such published larval descriptions that I have traced, and which I assume were all based on the final instar. Also, although the published accounts give the larval foodplants as withered, wilted or dying plants none mention that in the first instar the larva seems to require dead leaf fragments that are very small, both to feed on and hide amongst; according to my observations whole dead leaves, or even large parts of such, are too big for the larva to deal with in that instar.

**Literature accounts of the larva and its biology**

Barrett (1907) was unable to give a larval description, stating that the '*Larva [is] not satisfactorily described, nor indeed certainly known. Statements (which appear to be guesses) as to its habits are not rare. The most reliable suggestion which has reached me is that by Mr. W. Warren, that it "feeds on low-growing plants, skeletonizing their leaves, and not particular as to what plants."*

The first larval account that I can trace in the British literature is that provided by Meyrick ([1928]) as follows: '*Larva dark violet-grey; head light brown; plate of 2 almost black: on fallen and withered leaves and vegetable refuse on the ground*'. He gives the larval period as April. Despite Meyrick's considerable knowledge of the microlepidoptera it is unlikely that any of this



information resulted from his own observations. In the *Preface* to this publication he states that '*The descriptions of the characters of the perfect insects are drawn up in all cases from my own personal observations; but those of the larvae (which need to be studied in life) are mostly compiled to the best of my judgment from a comparison of the most trustworthy results of other observers.*' His account seems to closely follow that of Kennel (1908-1921), who, under *Phiaris arcuella*, describes the larva as dark violet-grey, the head light brown, prothoracic plate almost black and anal plate brown, and states that it lives in April (probably having overwintered) on the ground under fallen leaves and it nourishes itself there from wilted leaves and dying plant parts ('*Die Raupe ist dunkel violettgrau, der Kopf hellbraun, Nackenschild fast schwarz, Analklappe braun. Sie lebt im April (wohl überwintert) am Boden unter abgefallenem Laub und nährt sich dort von welken Blättern und absterbenden Pflanzenteilen*').

Swatschek (1958) provides a description based on a larva in the Zoologische Staatssammlung, München, Germany found by Disqué on 5 May 1909 at Speyer in the Rhine valley, Germany. He states that the larva is red-brown, strongly granular, head light brown, prothoracic plate, pinacula and anal plate dark brown ('*Raupe rotbraun, stark gekörnt, Kopf hellbraun, N, Warzen und A dunkelbraun*'). His account of the biology is in similar terms to that of Kennel.

Bradley, Tremewan & Smith (1979), followed by Razowski (2003), describe the larva as follows: '*Head yellowish brown; prothoracic plate dark brown to blackish brown or black; abdomen dark purplish grey to violet-brown; pinacula black; anal plate shining brown.*' As regards the biology they state, '*Late summer to April; feeding on withered and decaying leaves of low growing plants and on fallen leaves of shrubs and trees, overwintering under dead leaves on the ground.*' In preparation for their publication these authors undertook field work including rearing a number of species. Voucher specimens were then deposited in the Natural History Museum, London (BMNH). I have not been able to trace any specimen of this species in the BMNH reared by them, or indeed by anyone else either in the British Isles or mainland Europe.

On this basis it seems likely that the information provided by Bradley, Tremewan & Smith about the larva and its biology has been derived from mainland Europe. Although their account of the biology is in very similar terms to Kennel, the larval description differs in certain respects. Nor is it the same as that given by Swatschek (1958). Dr W. G. Tremewan tells me (personal communication) that he and the late Dr J. D. Bradley often consulted larval descriptions published by P. Benander. The only account of the larva of *Olethreutes arcuella* given by Benander that I am aware of, translated from Swedish, describes the larva as dark violet grey with a light brown head and black thoracic plate, and states that it lives in April under fallen leaves of withered plant

parts (Benander, 1950). This is in almost identical terms to those of Kennel (1908-1921) and Meyrick ([1928]), and so was presumably based on one of them. This assumption is strengthened by a paper that Benander published in two parts in 1964 and 1965 in *Opuscula Entomologica* entitled 'Notes on Larvae of Swedish Micro-Lepidoptera'. This records that during the last 50 years he had been writing diaries on caught and reared larvae of Lepidoptera and these included some data on microlepidoptera that he considered might be useful to have published. He makes clear that he has deliberately omitted certain families or genera from his paper but one of the families that he does not omit is the Tortricidae. He states (1964) that his reason for publishing these data is because the information about these larvae 'found in recent literature are usually not based on personal observations but copies of older descriptions and if once a mistake is published, it is repeated in one work after the other.' Significantly, *Olethreutes arcuella* is not included in the 124 species of Tortricidae that he deals with. Thus, it seems clear that the description he gave in 1950 was not based on his own observations but was taken from an earlier published account; as indicated in the above paragraph this was probably from Kennel or Meyrick. As his 1950 description differs from that given by Bradley, Tremewan & Smith (1979) then, unless he published something on the larva after 1965 which they followed and I have not traced, this was not the source of their larval description, and so this remains unknown.

### Rearing *Olethreutes arcuella*

*Olethreutes arcuella* is locally common at Hembury Woods, South Devon (VC 3), a National Trust property. Despite searching on several occasions I had never managed to find a larva there and so on 31 May 2009 I caught a female in the hope of obtaining ova. This proved successful, because within a day 19 ova were laid, all on the sides of the container within which the moth had been kept even though some dead leaves of oak *Quercus* species and birch *Betula* species had been placed in it.

All the larvae hatched on 8 June 2009. Because the adults mainly occur in fairly open areas where there are scattered, mature *Betula* trees I offered them dead leaves of this; some entire, others being large fragments. The larvae did not eat these but simply wandered about, although one started eating part of the body of the dead adult which I had left in one of the containers. I then gave them very small fragments of dead *Betula* leaves and almost immediately they spun some silk amongst these and started to feed.

At an early stage in its growth, but I did not observe in which instar, the larva folds down part of an edge of a leaf and usually remains within this, emerging for only part of its body length to feed. The larva vacates this fold and creates a fresh one on a different leaf each time it needs more sustenance. This process continues until it pupates.

The larvae grew very slowly and by mid-August all had ceased feeding and had gone into diapause. Until then each had been kept indoors in closed plastic containers; at this stage some *Sphagnum* species was placed in each container. Some of the containers were then put into a refrigerator indoors and some were put into an outdoor shed. All were taken out of the refrigerator and shed towards the end of February 2010 and brought into a warm room indoors. All of the larvae except one were still alive and within a day or so these started feeding again on whole dead *Betula* leaves. I did not note when the larvae pupated because pupation usually took place within the folded part of a leaf, but one spun a cocoon outside a leaf and became a pupa by 31 March 2010. Moths emerged between mid April and early May 2010.

My observations on the larval stage differ in several respects from the accounts mentioned earlier. The colour of the bodies of all of the larvae in their final instar was not dark violet-grey or dark purplish grey to violet-brown but sienna brown, with no indication of violet or purple. Also, unless in the wild the larvae hatch later and behave differently, it appears that the larval period commences about mid June, and not late summer as given by Bradley, Tremewan & Smith (1979), and the larvae go into diapause by mid August, which appears to have been unobserved previously. They do not hibernate under dead leaves but seal down an edge of a leaf and overwinter within, and recommence feeding in the spring.

### Description of the early stages

**Ovum** Flattened and almost circular. Laid in four batches, one of 10 and the other three each of three, usually with part of the edges slightly overlapping. Whitish at first, becoming pale yellow after a few days. The day before eclosion, under magnification, the larva can be seen lying in a semi-circle.

**Larva First instar.** Initially head very pale grey and rather translucent, stemmata black; prothoracic plate paler grey than head but not translucent; body whitish or very pale yellow, pinacula and anal plate concolorous; thoracic, ventral and anal legs translucent whitish. Shortly before the second instar head and prothoracic plate become pale brown, the body becomes orange-brown with concolorous pinacula and anal plate.

*Second instar.* (Plate 8). The same as shortly before the change from first instar.

If there were five instars then I did not observe the one after the second.

*Penultimate instar.* Very similar to final instar except prothoracic plate is yellowish brown, slightly translucent, becoming pale sienna brown laterally and thoracic legs are very pale yellowish brown, slightly darker where setae arise.

*Final instar.* (Plate 9). About 11 mm long. Head: labrum very pale yellowish brown, clypeus yellowish brown darker brown medially, epicranium yellowish brown mottled slightly darker yellowish brown with a few black or very dark



brown dashes laterally; prothoracic plate black or very dark brown; body sienna brown, lateral and dorsal incisions between thoracic segments 1 to 3 pronounced, very pale brownish white; pinacula inconspicuous, small, slightly shiny, concolorous with body except for a very small black mark from which arises a white or pale yellow seta (in Plate 9 the pinacula appear pale but this is due to reflections from the lighting used when photographing the larva); peritremes of spiracles black; anal plate yellowish brown, anal comb slightly shiny, sienna brown with six prongs; thoracic legs, femur and tibia black or very dark brown, tarsus dark honey brown; ventral and anal prolegs slightly translucent, very pale yellowish brown, crochets reddish brown.

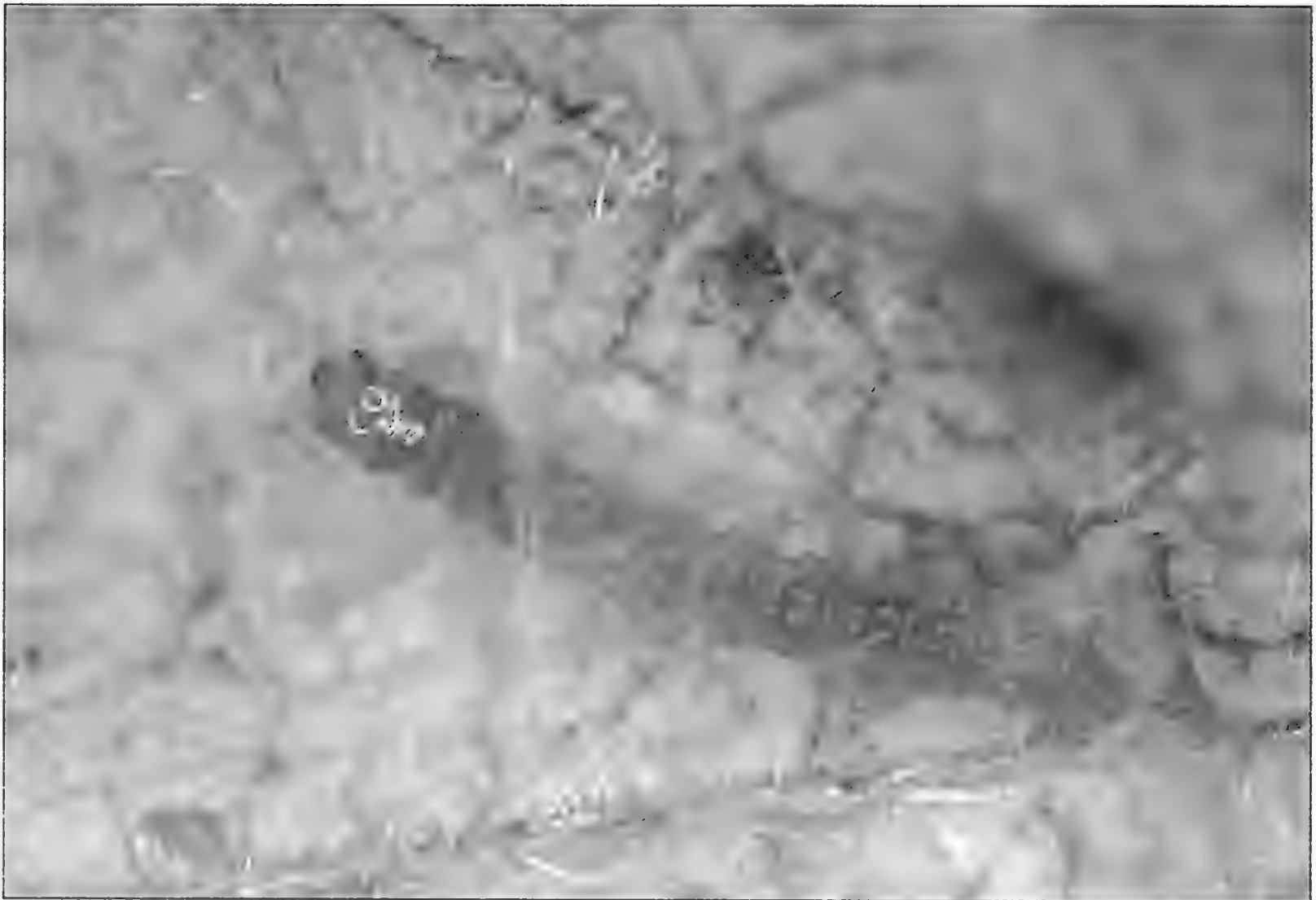
**Pupa** Not described, within a folded leaf; exuviae pale yellowish brown, extruded or partially extruded on emergence of the moth.

### Acknowledgements

I am very grateful to the National Trust for allowing me to record at Hembury Woods. I thank Mr B. Å. Bengtsson (Färjestaden) and Mr I. Svensson (Österslöv) for information about Benander's publications on the Tortricidae and the latter for translating Benander's larval account, Dr K. Sattler (Natural History Museum, London) for assisting me with certain German translations and Dr W. G. Tremewan (Truro) for various help.

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**Plate 8.** Second instar larva of *Olethreutes arcuella*, 21.vi.2009, from eggs hatched 8.vi.2009 by female from Hembury Woods, South Devon. Photograph © R. J. Heckford



**Plate 9.** Final instar larva of *Olethreutes arcuella*; 27.iii.2010, from eggs hatched 8.vi.2009 by female from Hembury Woods, South Devon. Photograph © R. J. Heckford

### New Lepidoptera Records for Kirkcudbrightshire (VC 73)

The purpose of this note is to place on record 62 new species of moths for Kirkcudbrightshire (VC 73). These relate to records made from when I first started recording here in 2002 until the end of 2010. All records were made in my home area of Auchenshore (O. S. grid reference NX 806514), on the north-west side of Auchencairn Bay; the few that did not feature in my garden light trap were all found within the a few hundred metres or so of the trap position.

Auchencairn Bay, together with Orchardton Bay, comprises the largest area of saltmarsh within Kirkcudbrightshire, a total of approximately 178 hectares and designated as a Site of Special Scientific Interest (SSSI). There is a wide range of saltmarsh plant communities from pioneer Saltwort *Salicornia* sp. and common cord-grass *Spartina anglica* to common and lax-flowered Sea-lavender *Limonium vulgare* and *L. humile*, Sea-purslane *Halimione portulacoides*, Sea Aster *Aster tripolium*, annual Sea-blite *Suaeda maritima*, Greater Sea-spurry *Spergularia media* and thrift *Armeria maritima*.

The trap site is on the edge of a 150 metre long, fresh-water lochan with extensive reed beds on the far side which form a boundary between the garden and the salt marsh beyond. The main plant species in the lochan are pond weeds, *Potamogeton* sp, Fringed Water-lily *Nymphoides peltata*, White Water-lily *Nymphaea alba*, Amphibious Bistort, *Polygonum amphibium*, Common Redshank, *Polygonum persicaria*, Water Mint, *Mentha aquatica*, and Bull Rush *Typha latifolia*. The reed beds are dominated by two main species: Sea Club-rush *Scripus maritimus* and Common Reed *Phragmites australis*. The highest high tides cover the whole of the salt marsh and reed beds but do not flood the lochan.

As well as being noted for its salt marshes the bay holds significant flocks of waders and wildfowl in winter, including over 6000 Barnacle Geese *Branta leucopsis*, 2000 Pink-footed Geese *Anser brachyrhynchus* and good numbers of Shelduck *Tadorna tadorna*, Curlew *Numenius arquata*, Oystercatcher *Haematopus ostralegus* with occasional flocks of 100 to 600 of Knot *Calidris canutus*, Dunlin *C. alpina* and Golden Plover *Pluvialis apricaria*. At the mouth of the bay off Hestan Island rafts of up to 6000-8000 Common Scoter *Malanitta nigra* are seen in June and July and on Hestan itself there are large breeding colonies of Lesser Black-backed Gull *Larus fuscus*, Herring Gull *L. argentatus* and Cormorant *Phalacrocorax carbo*.

The immediate surrounding countryside is given over almost entirely to the grazing of sheep and cattle. There are no stands of trees of any extent within 1 km of the site, but there are small groups of Beech *Fagus sylvatica*, Alder *Alnus glutinosa* and *A. incana*, Birch *Betula pendula*, Hawthorn *Crataegus monogyna* and various Sallows *Salix* sp. within a hundred metres of the trap site.

In the list, the following abbreviations are used: 'New D&G' indicates that the record was at the time the first for the Dumfries & Galloway Administrative area covered by the three vice-counties 72, 73 and 74; Gen. det. indicates that at least one specimen has been named from genitalia examination. Code numbers are



those initiated by Bradley & Fletcher (1979. *A Recorder's Log Book or Label List of British Butterflies and Moths*. Curwen).

### Tineidae

247 *Tinea trinotella* Thunb. – 12.vi.2007, the only record.

### Bucculatricidae

267 *Bucculatrix maritima* Stt. – first recorded 5.ix.2004 and most years since, with over a thousand on 5.ix.2005. gen. det. New to D&G.

274 *B. ulmella* Zell. – 2003 (no date recorded), 1 female gen.det., the only record for D&G to date.

### Yponomeutidae

401 *Agyresthia laevigatella* (Heydenr.) – 17.vii.2010, gen.det., the only record.

414 *A. curvella* (L.) – 17.vii.2002, the only record for D&G to date.

427 *A. cagnebella* (Hb.) – first recorded 28.vii.2004 and subsequently in 2005 and 2010.

473 *Acrolepiopsis assectella* (Zell.) – 12.vii.2010, the only record for D&G to date.

### Coleophoridae

518 *Coleophora mayrella* (Hb.) – 27.vii.2005, gen.det., the only record, new to D&G.

565 *C. saxicolella* (Dup.) – 19.vii.2006, 3 male and 5 females gen.det., the only records for D&G to date.

566 *C. sternipennella* (Zett.) – 19.vii.2006, 1 male and 1 female, gen.det., the only records for D&G to date. **New to Scotland.**

583 *C. tamesis* Waters – first recorded 2003 (no date) and subsequently in 2004, 2005, 2007 and 2010, all gen.det.

585 *C. maritimella* Newm. – first recorded 5.vii.2006, 1 male, and again in 2007, all gen.det.

### Elachistidae

627 *Biselachista scirpi* (Stt.) – 2003 (no date), 1 male gen.det., the only record for D&G to date. **New to Scotland.**

632 *Cosmiotes consortella* (Stt.) – 7.vii.2003, the only record for D&G to date.

### Oecophoridae

691 *Agonopterix purpurea* (Haw.) – 9.vi.2007, the only record for D&G to date. **New to Scotland.**

714 *A. yeatiana* (Fabr.) – first recorded 13.iv.2003 and subsequently in every year except 2008.

### Gelechiidae

726 *Metzneria metzneriella* (Stt.) – 22.vi.2003, the only record, new to D&G.

736 *Monochroa lucidella* (Steph.) – first recorded 22.vi.2003, 1 male, and subsequently in 2004, 2006, 2009, 2010. **New to Scotland.**

747 *Chrysoesthia sexguttella* (Thunb.) – first recorded 6.vii.2004, gen.det., and subsequently on 30.vi.2010.

789 *Bryotropha domestica* (Haw.) – first recorded 28.vii.2004 and subsequently on 10.viii.2005.



Plate 10. Auchencairn Bay at Auchenshore, Kirkcudbrightshire – the recording area.

- 790 *Chionodes fumatella* (Dougl.) – 27.vii.2004, gen.det., the only record for D&G to date.
- 796 *Aroga velocella* (Zell.) – 23.vii.2002, the only record for D&G to date.
- 812 *Scrobipalpa instabilella* (Dougl.) – 2.viii.2004, the only record for D&G to date.
- 813 *S. salinella* (Zell.) – 23.vii.2002, the only record for D&G to date.
- 815 *S. nitentella* (Fuchs) – first recorded 10.vii.2006, 1 female, and subsequently on 15.vii.2009, gen.det., new to D&G.
- 816 *S. obsoletella* (F.v.R.) – 3.viii.2004, the only record, new to D&G.
- 819 *S. costella* (Humph. & Westw.) – 25.viii.2003, the only record, new to D&G.
- 843 *Aproaerema anthyllidella* (Hb.) – 8.viii.2004, gen.det., the only record, new to D&G.
- 856 *Anarsia spartiella* (Schr.) – 2003 (no date); a possible record for 27.viii.2002 was not checked.
- 882 *Mompha locupletella* (D.& S.) – 26.vi.2010, the only record.
- 892 *M.subbistrigella* (Haw.) – 14.ii.2008, the only record for D&G to date.
- 898 *Limnaecia phragmitella* Staint. – first recorded 3.viii.2004 and subsequently in 2005, 2006, 2009, new to D&G.

#### Tortricidae

- 926 *Phalonidia manniana* (F.v.R.) – the only record for D&G to date.
- 929 *Gynnidomorpha vectisana* (Humph. & Westw.) – 2003 (no date) 2 females, gen.det; a possible record for 1.viii.2002 was not checked.
- 988 *Aphelia viburnana* (D.& S.) – 3.viii.2004, the only record.
- 993 *Clepsis spectrana* (Tr.) – first recorded 12.vi.2002 and every year since, new to D&G.
- 1041 *Acleris sparsana* (D.& S.) – 7.x.2005, the only record.

- 1042 *A. rhombana* (D.& S.) – first recorded 19.vii.2002 and then in 2004 and 2005.  
 1048 *A. variegana* (D.& S.) – first recorded 24.viii.2002 and in most years since.  
 1089 *Apotomis semifasciana* (Haw.) – 12.vii.2010, the only record.  
 1108 *Lobesia abscisana* (Doubl.) – 13.vii.2010, the only record for D&G to date.  
 1110 *Bactra furfurana* (Haw) – first recorded 26.vi.2002. gen.det. and in most years since.  
 New to D&G.  
 1111a *B. lacteana* Carad. – 13.vii.2010, gen.det., the only record for D&G to date.  
 1112 *B. robustana* (Christ.) – first recorded 27.vii.2002 and subsequently in 2003, 2004, 2006, 2010, all gen.det..  
 1151 *Epinotia trigonella* (L.) – 14.vi.2004, the only record, new to D&G.  
 1175 *Epiblema uddmanniana* (Linn.) – 14.vi.2004, the only record  
 1179 *E. incarnatana* (Hb.) – 3.vii.2003, the only record.  
 1245 *Grapholita janthinana* (Dup.) – first recorded 6.vii.2004 with another on 15.vii.2005, new to D&G.  
 1285 *Dichrorampha plumbana* (Scop.) – vi.2003( exact day not noted), the only record, new to D&G.

### Crambidae

- 1297 *Crambus uliginosellus* Zell – 16.vii.2002, the only record for D&G to date.  
 1300 *C. pratella* (D.& S.) – 16.vi.2004 the only record.  
 1336 *Eudonia pallida* (Curtis) – first recorded 28.vii.2004 with one further record 23.vii.2006, the only records for D&G to date.  
 1343 *E. delunella* (Stt.) – first recorded 19.vii.2002 and subsequently in 2004.  
 1348 *Parapoynx stratiotata* (Linn) – 26.vi.2003 the only record.

### Pyralidae

- 1458 *Myelois circumvoluta* (Geoff.) – first recorded 19.vii.2002 and subsequently in 2009, 2010, new to D&G.

### Pterophoridae

- 1497 *Amblyptilia acanthadactyla* (Hb.) – 23.viii.2004 the only record.  
 1508 *Stenoptilia bipunctidactyla* (Scop.) – 4.vii.2003 the only record.  
 1524 *Emmeina monodactyla* (L.) – first recorded 14.vii.2002 and every year since.

### Geometridae

- 1853 *Eupithecia dodoneata* Guen. **Oak-tree Pug** – 3.vi.2002 the only record.

### Arctiidae

- 2049 *Eilema depressa* (Esp.) **Buff Footman** – 29.viii.2008 1 male and 1 female the only record, male gen. det.

### Noctuidae

- 2204 *Mythimna obsoleta* (Hb.) **Obscure Wainscot** – first recorded 9.vi.2002 and then every year since. **New to Scotland**, but has recently been found at another location in D&G.  
 2377 *Arenostola phragmitidis* ((Hb.) **Fen Wainscot** – first recorded 2.viii.2003 and every year since. **New to Scotland**.



Of particular interest is the observation that according to Hill et al (2010. *Provisional Atlas of the UK's Larger Moths*. Butterfly Conservation) both the Oak-tree Pug and the Buff Footman are, apparently, each recorded from only two other sites in Scotland.

I wish to thank Keith Bland of the Nation Museums Scotland for the enormous amount of work he has done over many years on the genitalia dissections and confirming many other specimens. I am also very grateful to the County Moth Recorder, Keith Naylor, for checking the records for Dumfries and Galloway on the county data base. Needless to say any errors are entirely my responsibility. — EUAN A. M. MACALPINE, Auchenshore, Auchencairn, Castle Douglas, Galloway DG7 1QZ (E-mail: js.eamm@sky.com).

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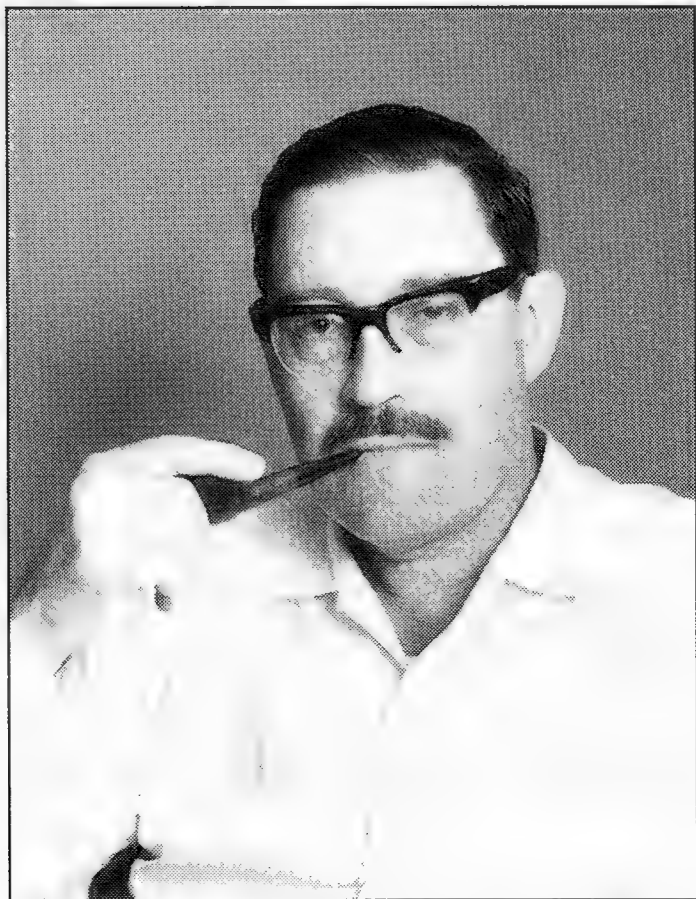
## OBITUARY

### Arthur H.B. Rydon

1919-2009

*'That great stalwart of African butterflies'*, Medical Practitioner,  
Entomologist and Musician

This account of the entomologist Arthur H.B. Rydon is, in part, based upon the



biographical notes that he prepared prior to his death.

Arthur Rydon was born in Brisbane, Australia, on 21 December 1919 the first son of an English father married to an Australian. In June 1920, when he was six months old, the family moved to East Africa (Kenya). However at 7000 ft Laikipia in Kenya was too high for his mother so in 1923 they moved to Tanganyika. Both he and his brother David developed a great love for the plants and wildlife of the country, a love which in later years was captured in their collections, paintings and music. In 1924 he contracted

severe malaria so went to the UK to recover where he stayed in a children's home in Bexhill. The trauma of moving away from their beloved Africa was one that he and his brother never really recovered from. Whilst he was at Bexhill his mother sent him some butterflies from his home in Tanganyika and he was able to tell the other children in the home all about the butterflies, though he was only four at the

time! Both his father and grandfather had an interest in butterflies – something that he clearly developed.

In 1927 he was able to show other boys at his school how to set butterflies, so he had already started collecting them before the age of seven. By the age of ten he had made a complete collection of Arusha (in what is now northern Tanzania) butterflies. At around this time he became interested in birds and made a collection of bird skins. In 1932, had to go to England to complete his education where between 1933 and 1938 he attended Eton, during which time he collected some English butterflies. In 1939, he became a medical student at the Westminster Hospital qualifying as a doctor in 1945, just before the end of the Second World War.

After several hospital appointments he returned to his home at Arusha where he practiced medicine until 1947. In 1948 he joined the Royal Army Medical Corps as a doctor and in 1950 was posted to Mackinnon Road, Kenya. Here there were lots of *Charaxes* which stimulated his old interest in butterflies spawned his large collection. He left the Army in 1955 and added two medical qualifications to his name before again returning to East Africa. During a six weeks safari of Uganda in April – May 1958 the foundation of his present collection, which is now housed at the Booth Museum of Natural History in Brighton, (where he also worked on their *Charaxes*), was formed. This contains many exotic Central Africa species mixed with East African. In 1960 he travelled to Mombasa and took the appointment of Deputy Medical Officer of Health of Mombasa. This job gave him access to the Kenya coast, and Shimba Hills and Taita Hills, which he found to be good collecting grounds. He also collected in Tanzania, Mt Meru, the Usambara mountains, the Uluguru Mts and others. Other butterflies in his collection include his early English material but also some Ecuadorian butterflies (from Chris Samson) and many neo-tropical ones bought from Paul Smart (of the late 'National Butterfly Museum', Bramber, West Sussex).

After the death of his mother in 1964 he left Arusha and returned to England where he continued his love of butterflies. In 1965 – 1969, he studied the habits of the Purple Emperor butterfly and was able to add a few specimens to his collection. For many years he lived on his own in a grand house at Roeheath near Chailey, East Sussex. Here he continued his interests in butterflies, music (a grand piano dominated his living room) painting and religions. He eventually succumbed to age and was no longer able to care for himself and subsequently went into a care-home in Lewes where not long after he died.

Arthur contributed a great deal to our understanding of the African butterfly fauna including acknowledged contributions to many papers. He described new species including *Cymothoe amaniensis* Rydon 1980, *Charaxes chittyi* Rydon 1980, *Charaxes margaretae* Rydon 1980, *Cymothoe howarthi* Rydon 1981, *Cymothoe isiro* Rydon 1981, *Charaxes bernstorffi* Rydon 1982, *Charaxes larseni* Rydon 1982, *Charaxes amandae* Rydon 1988, *Charaxes gerdae* Rydon 1989, *Charaxes karkloof trimeni* Rydon 1994, *Cymothoe handeni* Rydon 1996, and

*Cymothoe tenuifasciae* Rydon 1996. He also worked on higher levels of classification, which gave us the genus *Noreppa* Rydon 1971, the Tribe Euxanthini Rydon, 1971 (Charixinae) and the Tribe Pallini Rydon, 1971 (Euxanthe).

He was involved not only with the Old World nymphalids, but also those of the New World including the genus *Anaea* from which he split off the genus *Fountainea* Rydon, and the establishment of the Tribe Preponini that includes the genera *Agrias*, *Anaeomorph*, *Archaeoprepona* and *Noreppa* (Rydon 1971) and *Prepona* (The systematics of the Charaxidae (Lepidoptera: Nymphalidae). *Ent. Rec.* **83**: 339-341). In 1971 Rydon also designated *Coenophlebia* Felder & Felder 1862 as the type genus in the tribe Coephelebiini, Nymphalidae (*Ent. Rec.* **83**: 315). He even devised improvements to traps for *Charaxes*, the 'Van Someren-Rydon trap' as used by many entomologists in the tropics (see Rydon A, 1964 Notes on the use of butterfly traps in East Africa. *Journal of the Lepidopterists' Society* **18**(10) 51-58.)

Away from butterflies he was also an accomplished musician – a photograph of him appears in Bernard D'Abrera's *Butterflies of the Ethiopian Region Part 1* where he is seen playing one of his own compositions on Bernard's family piano in Normandy, Surrey.

Arthur Rydon will be well remembered by all those that knew him, particularly the entomologists that he worked with and assisted. In their publication 'On the status of *Papilio sjoestedti* Aurivillius, 1908, the 'Kilimanjaro swallowtail' (Lepidoptera: Papilionidae,)' Campbell R. Smith; Steven Liseki and Richard I. Vane-Wright (2008. *Journal of Natural History*, **42**(19 & 20): 1349-1359) refer to him as " that great stalwart of African butterflies, Arthur Rydon".

GERALD LEGG

### Arthur H. B. Rydon

In 1980 I caught the first known 'black *Charaxes*' from Yemen and sent it to Arthur Rydon, who specialised in this complicated group. He found it to be an undescribed species, which he wanted to name after me. He was very surprised when I asked for it to be named after the Danish prime minister, Count Bernstorff, who in the 1760s sponsored the famous Danish expedition to "Arabia Felix", as Yemen was then known. In addition to describing *Charaxes bernstorffi* he threw in an undescribed Ethiopian *Charaxes* as *C. larseni*. We met frequently at the Natural History Museum London, but when he learnt that I was transferring to India in 1983, he insisted that we spent a weekend at his beloved Roehampton before leaving the UK. We discussed butterflies for while, but when Arthur discovered that my late wife Kiki had musical interests, he switched to the grand piano. I still have an autographed score of his piano piece 'the birds of Duluti', a perfect, very sweet, musical paean to the birds surrounding his Tanzanian home. I think of him whenever I relax under an *Acacia* in the East African savannah. May he rest in peace.

TORBEN B. LARSEN



**Gravid female Forester moth *Adscita statures* L. (Lep.: Zygaenidae) nectaring in a Peterborough garden and comments on some other unexpected reports**

On 11 July 2010 in my Peterborough garden (O.S. grid reference TF 164033, VC 32: Northamptonshire), a somewhat worn female Forester moth *Adscita statures* was noticed nectaring at 20.00 hours on a clump of cultivated Lavender *Lavandula* flowers by my patio. This appears to be the first record of this species for vice-county 32 since 1989, according to John Ward, the County Moth Recorder. Furthermore, there appear to be no records of the Forester from the neighbouring counties of Cambridgeshire and Huntingdonshire since a report of a single individual from Holme Fen in 1997, the first for Huntingdonshire since a sighting on 1 June 1939.

During the first half of July 2010 we experienced an unbroken series of hot dry days and warm nights here, as did much of England. On the night of 8 July I found three species of wetland moths in the Robinson light-trap. These were the Silky Wainscot *Chilodes maritimus* and the pyralids *Schoenobius gigantella* and *Donacula forficella*. These may have come no greater distance than from the reedy ditches on the outskirts of Werrington, less than 1km away, but they indicate this was a period of unusual dispersal of moths. All three have occurred in the garden before, on more than one occasion, but none are frequent enough to indicate that they are resident there and they are not seen here every year. The larval foodplants for both the pyralids are Common Reed *Phragmites australis* and Reed Sweet-grass *Glyceria maxima*. The caterpillar of the Silky Wainscot occurs within the stems of Common Reed, where it is reported to feed initially on the Reed but mainly to scavenge dead or live insects, such as pupae, sheltering in the hollow stems. Neither of these foodplants occurs in my garden.

Realising the importance of the Forester record, I retained the individual, initially alive. She laid eggs which duly hatched, while the female is now in my collection. The Forester was formerly well-distributed in England, Wales and parts of southern Scotland, but is now very much more localised due to the intensification of agricultural practices since the Second World War. It survives mainly on those few areas of permanent grassland which have not been sprayed with chemical fertilisers and pesticides; the larval foodplants are Common Sorrel *Rumex acetosa* and Sheep's Sorrel *R. acetosella*. The nearest site from which Forester moths have been reported is Castor Hanglands National Nature Reserve (NNR), about 5 km to the south-west, but the Forester has not been seen there since 1948. The next nearest site was the best known for the Forester in Northamptonshire – Barnack Hills and Holes NNR, but the last record there was on 30 May 1960. The Forester was last seen in Northamptonshire in 1989 at Charwelton (B. Laney). This last sighting was in a damp meadow which was ploughed the year after the moth was recorded. Loss of habitat and lack of appropriate management were widespread causes of the loss of the moth from the county.

Mick Beeson and Malcolm Hillier, both residents of nearby Helpston, have operated light-traps in their gardens intensively and have worked the fields and



hedgerows extensively in the north-eastern part of Northamptonshire over the last forty years, but they have never seen the Forester here. Neither has Peter Kirby who is based in Peterborough and has surveyed much of the environs both professionally and for his own interest. Yet this is a moth that is easy to see and recognise by day due to its habit of nectaring at flowers just like a Burnet moth (*Zygaena* spp.).

Historical records of the Forester moth in the neighbouring counties of Cambridgeshire and Huntingdonshire closest to me are fewer than for Northamptonshire. The website for the moths of Cambridgeshire doesn't permit much investigation of the data, but that for Huntingdonshire, which starts just south of the river that runs through Peterborough, has a very fine listing of all the moths, micros and macros, recorded from the county, maintained by Barry Dickerson. This reports that the first Huntingdonshire record of the Forester was in 1829 and the last confirmed record was on 1 June 1939. There are only six records on the database, so it would seem that the moth was not widespread in the county even in the 19th century despite many lepidopterists visiting the county for other nationally scarce and local species. However, in 1997 Alan Bowley reported seeing a single individual of what he considered was the Forest moth from Holme Fen NNR on 15 July. The record was not supported by either a specimen or a photograph, so it could technically have been any one of the three species of British Forester moths, if it was indeed an *Adscita* species. Barry Dickerson visited the exact location to see if he could find any more, particularly because the larval foodplants are abundant on this site, but his results were negative.

It is my experience that the Forester sometimes undertakes dispersal flights, particularly in warm weather, and that sometimes these are even by night, when the moth can come to light-traps. This has also been noted occasionally by other moth observers. On 5 July 1983 I captured a single Forester moth in a Robinson light trap I was operating in a garden in the village of Farley, near Salisbury, Wiltshire. It was the only one I captured there, despite operating the trap several times per week throughout the summer. The nearest known population was on Pepperbox Hill, 5km to the south and there was no apparent suitable breeding habitat nearer to the garden. Like the reported sighting from Holme Fen, it is in the first half of July, which is near the end of the normal flight season for the Forester.

A little further afield, the species still survives in unspoilt permanent grassland habitat in Oxfordshire and Buckinghamshire to the south-west, but the last few sites are very scattered. I have known one of the populations since the early 1970s; this remains strong and stable, but is critically dependent on the traditional hay-cutting management regime on a field of permanent and unsprayed ridge and furrow grassland. Meanwhile in Nottinghamshire, to the north-west, county moth recorder Sheila Wright reports to me that the Forester has successfully colonised the grassy tops of several quarries in recent years. The level of monitoring of these sites prior to the first sightings, rules out any possibility that these are previously undetected relict populations.

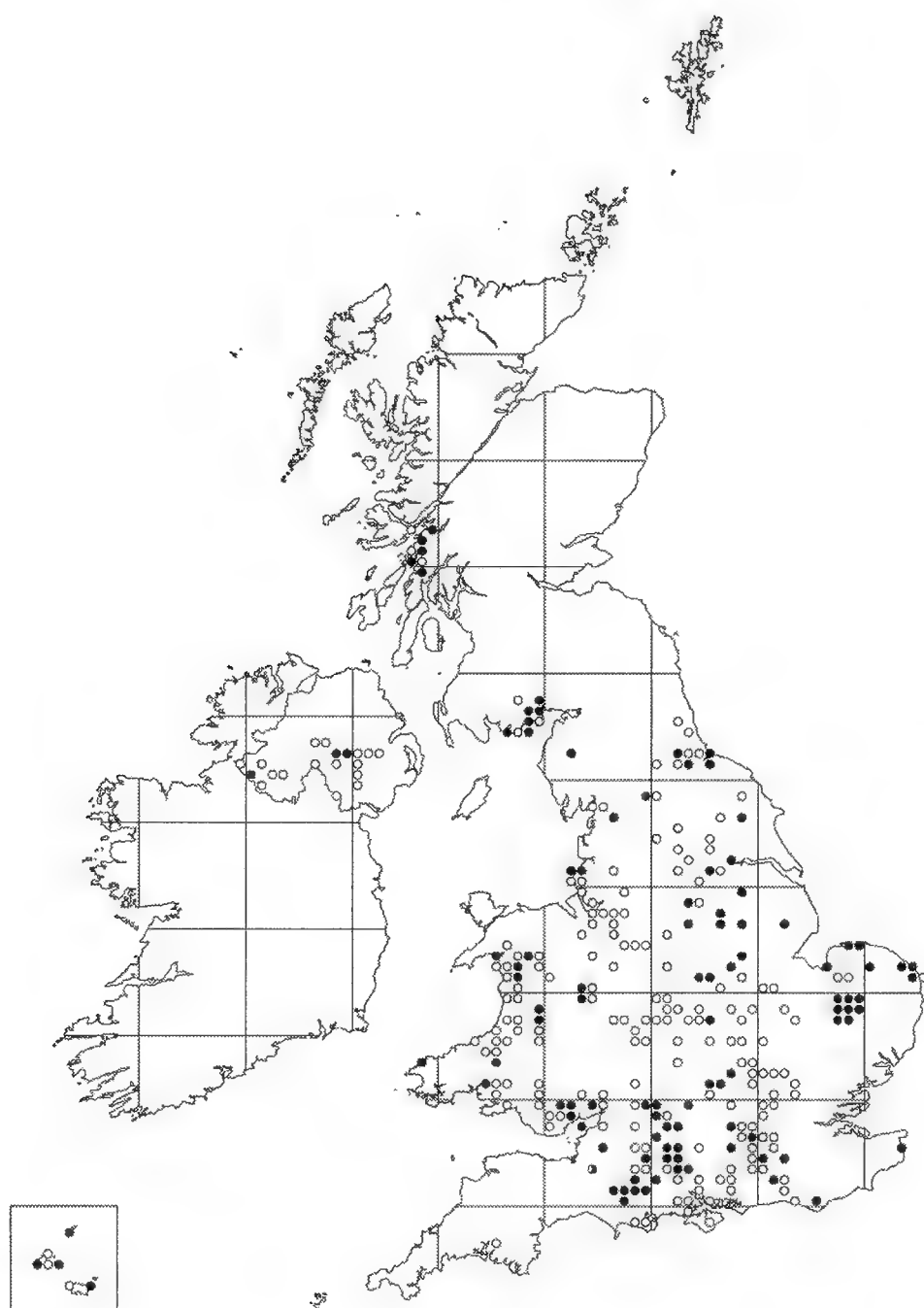


Figure 1. Distribution of Forrester Moth.

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for Leicestershire with Rutland, considers that the Forester may have declined in Leicestershire in recent years, but that all the remaining populations are on permanent meadows which are protected in various ways. He reports that the species has never been recorded in the former county of Rutland. One of the populations in Leicestershire was only discovered as recently as 2007 and Adrian considers it still possible that there is an undiscovered population nearer to my garden than any of the known colonies.

In view of my experiences of the dispersal of the Forester at Farley and at Peterborough, it seems acceptable that the insect seen at Holme Fen really was a Forester moth. What we now need to do is find out where these individuals came from.

The distribution map and associated data were provided from the National Moth Recording Scheme, courtesy of Butterfly Conservation; my thanks to them for this permission and to their Data Manager, Les Hill, who was most helpful and swift in providing these. Also many thanks to the relevant county moth recorders, who have seen the draft of this note. — PAUL WARING, 1366 Lincoln Road, Werrington, Peterborough, PE4 6LS (E-mail: paul\_waring@btinternet.com).

Studying the latest national distribution map for the Forester, produced by the National Moth Recording Scheme co-ordinated by the Moths Count project of Butterfly Conservation (Fig. 1) shows that the nearest known populations of the Forester to Peterborough are currently those in Leicestershire with Rutland. These are mainly in O.S. grid squares SK 41 (Ulverscroft Nature Reserve) and SK 51 (Lea Meadows NR and other parts of the Ulverscroft Valley), and also SK 83 (Muston Meadows NNR – one of the finest lowland meadows in England). All of these sites have a series of post-2000 records. The nearest to my garden are the records from SK 83 some 35 km to the north-west, on the west side of Grantham. The others are west of Leicester, near Loughborough, and about 60 km to the west of my garden. Adrian Russell, County Recorder

**The habits of Dock Leaf Beetle *Gastrophysa viridula* (De Geer) (Col.: Chrysomelidae)**

Jones (2011. *Ent. Rec.* 123: 50) has commented on the lack of records of Dock Leaf Beetle in south-east England, but does not discuss its ecological requirements. It may be that it needs a lot more than just the availability of sufficient food-plant – mainly Broad-leaved Dock *Rumex obtusifolius*. In most of its British range it is effectively a species of disturbed ground situations, and the two commonest situations where I have found it are along river- and stream-sides where winter flood-scour creates an abundance of bare or sparsely-vegetated ground, and field margins where the soil disturbance comes from agricultural operations. The latter situations also tend to be along valley bottoms and my impression has been that agriculture merely extends the amount of available habitat in sites already with populations of the beetle. All of my own records are from the hill country of the north and west of Britain where the faster flowing water bodies are more likely to cause winter-scour effects.

This is actually a well-studied beetle. Whittaker et al (1979. *Journal of Animal Ecology* 48: 973-986) similarly describe it as a species of unstable habitats – their study site was a river shingle system on the River Lune near Lancaster. They studied its population dynamics and comment on the existence in the distribution of the species of ‘holes’ which are formed and filled at irregular intervals. Survival of the population in these circumstances, they say, has little to do with the patterns of natality and mortality which would form the basis of a conventional population model. The more natural riverbank situation can therefore be mirrored in modern farmland through periodic loss of food-plant following cutting or cultivation. Smith & Whittaker (1980. *J. Anim. Ecol.* 49: 225-236) demonstrated that there is an inverse relationship between the diversity and maturity of the background vegetation and the survival of the beetle populations – basically it is disturbance that keeps this species going. — KEITH N. A. ALEXANDER, 59 Sweetbrier Lane, Heavitree, Exeter EX1 3AQ (E-mail: keith.alexander@waitrose.com).

***Peyerimhoffina gracilis* Schneider (Neur.: Chrysopidae) in West Sussex**

The note by Plant (2010. *Ent. Rec.* 122: 278-279) prompts me to put on record the capture of this species in West Sussex (VC 13). On the night of 19 July 2006, two 125 watt mercury vapour moth traps were run in Verdley Wood at O. S. grid reference SU 906254. The night was quite productive and a total of 162 species of Lepidoptera were identified in the morning. A small sample of the numerous Neuroptera in the traps was retained for subsequent identification. Before any attempt at naming had been made, Graham Collins noticed the specimen in my store box at a British Entomological and Natural History Society open day at Dinton Pastures and instantly recognised it as *Peyerimhoffina gracilis*.

The light traps at Verdley Wood were run on a ride between managed Sweet Chestnut *Castanea sativa* coppice with scattered oak *Quercus* spp. and Douglas Fir *Pseudotsuga menziesii* plantation.



# SOCIETY MATTERS



## **WANTED: plastic storage boxes with lids!**

The society needs plastic storage boxes in which to keep some of its paper archives and back issues collection. We currently use cardboard boxes in many cases, which are not ideal as they are susceptible to dampness (not to mention being eaten by mice)! These crates are surprisingly expensive to purchase in the quantity we need, so if any members have some they no longer want and they would like to donate them to the Society, this would be most welcome. They can be delivered to our storage facility in Surrey or collected by or passed to the Hon. Secretary at one of our events, depending on your location.

## **FORTHCOMING EVENTS**

### **Members' Day 2011**

Our Members' Day will take place on 30th April at Butterfly World near St Albans, Hertfordshire, commencing at midday with a brief AGM. This new venue, which opens in April, is next door to the Royal Entomological Society HQ. The full address is: Butterfly World, Miriam Lane, Off Noke Lane, Chiswell Green, Herts, AL2 3NY.

(Miriam Lane is named after the entomologist Dame Miriam Rothschild, and the Butterfly World Project is within walking distance of the rooms of the Royal Entomological Society, of which Dame Miriam was a past president).

Following a brief AGM we have a timetable of interesting speakers including Dr Martin Hall, Head of Research at the Natural History Museum, who will deliver the Annual Leonard Tesch Lecture. Clive Farrell, founder of the Butterfly World Project, will tell us all about the trials and tribulations of constructing the largest butterfly attraction in the world, and will take us around the site. Professor Stuart Reynolds of Bath University will present a talk about the Royal Entomological Society and the AES, and Dr Sarah Dewhirst from the BBSRC will deliver a talk about some interesting but lethal flies.

We will have the usual display stands and insect 'crafty corner' and Dr David Bellamy will be there to explain entomological matters to our younger members. Food (and wine!) will be available, so we do hope that you can all come along.

### **BENHS Joint Meeting**

A workshop and field event is being planned to be held at the BENHS HQ at Dinton Pastures Country Park on Saturday 11th June. Further details will become available in due course and may be found on our website [www.amentsoc.org](http://www.amentsoc.org). If you do not have internet access and do not have a local library that offers internet facilities please write in for further details to:

The AES, PO Box 8774, London SW7 5ZG



**Dipterists Handbook** (Second Edition) edited by Peter Chandler (with contributions by 42 other authors)

This Handbook provides a work of reference for everyone interested in the study of flies, both beginners and experienced dipterists.

As in the first edition great emphasis has been placed on the habitats and biological associations of flies. Among the authors are specialists in each field of study so it has again been possible to bring together a summary of the latest knowledge of all aspects of the biology of Diptera at the species level.

There are additional subjects not covered in the first edition including Forensic entomology and an explanation of the classification of Diptera and a bibliography of key works for the identification of both adults and larvae. Some specific habitat associations are covered in greater detail to reflect increased ecological knowledge of flies and the greater significance now being placed on some habitats in the conservation of Diptera. 525 pages with 32 colour plates and 45 text figures. **£ 52.00**

*Members price £ 44.00*

**British Butterflies throughout the year** by Peter May

This new book from the AES describes the adults of different species of British butterflies, according to the time of year they appear on the wing. Nearly all the 60 British species are illustrated. Focussing on encouraging an interest in entomology among the young, and the young at heart, there is a helpful calendar of flight times and a useful checklist to help you keep track of your observations. **£ 5.00**

*Members price £ 3.80*

**Preparing and maintaining a collection of Butterflies and Moths**

by P. May and M. White. A practical manual detailing the various methods used to prepare specimens for a collection, from killing methods, setting the specimens and repairing damaged ones, to storage and preservation, including pest prevention and cure. 21 pages. 4 figures and 5 plates. (2006)

**£4.85**

*Members price £3.65*

**The Hymenopterist's Handbook** by Dr. C. Betts *et. al.*

2nd edition dealing with the history of their families, classification and structures; natural history; studying, collecting, breeding, attracting and preserving Hymenoptera. Appendices include keys to the families. 214 pages with numerous tables, keys and figures (1986) **£ 11.45**

*Members price £ 8.60*

**Revised Flight Tables for the Hymenoptera**

Revised flight tables for the Hymenoptera giving, wherever possible, times, location, flower visits and some indication of distribution and abundance. 24 pages (1988) **£ 3.10**

*Members price £ 2.35*

**A Coleopterist's Handbook**

Edited by J.Cooter & M.V.L.Barclay The *Coleopterist's Handbook*, is now available as a fully revised and expanded fourth edition. Nomenclature has been brought inline with

current use, collecting/curatorial methods reflect best practice and plant/beetle and beetle/plant lists are included together. Recent additions to the British fauna, modern and traditional techniques are included. All advice and comment given in the book is based upon collective years of practical experience of both curatorial methods and field craft; beetle family chapters have each been written by an internationally recognised authority. 496 pages including 32 colour plates. **£ 54.00**

*Members price £ 39.00*

**Host plants of British Beetles: A List of Recorded Associations**

A list of a wide range of plants, in alphabetical order, together with the beetle species that have been recorded as being associated with them. 24 pages (1992) **£ 3.10**

*Members price £ 2.35*

**A Silkmoth Rearer's Handbook** by B.O.C. Gardiner

*SPECIAL OFFER PRICE £ 7.70*

*No further discounted price available*

**Rearing and Studying Stick and Leaf-Insects** by P. D. Brock

Specifically intended for beginners, although it is also suitable for experienced Phasmid enthusiasts, it is one of the few guides to rearing that features the majority of the culture stocks available, 22 species in detail. The informative text is complimented by 8 colour plates, 14 black and white plates and 29 figures. (New edition, 2003) **£ 11.20**

*Members price £ 8.20*

**The Study of Stoneflies, Mayflies and Caddisflies** by T.T. Macan

A comprehensive guide to collecting and studying the biology and ecology of these aquatic insects. 44 pages, 10 figures and bibliography (1982) **£ 4.20**

*Members price £ 3.15*

**Breeding the British Butterflies** by P.W. Cribb

A practical handbook covering all aspects of butterfly breeding, including general techniques, equipment and hints on how to breed each of the British species. 60 pages, 6 figures, 5 plates, Revised (2001) **£ 5.20**

*Members price £ 3.85*

**Practical Hints for the Field Lepidopterist** by J.W. Tutt

Written at the turn of the century, this book has been reprinted because of its scarcity and value to students of Lepidoptera. It gives a complete month by month guide to which species and stages of macros and micros to look for and how to find them. Also contains a biological account of the early stages and how to keep, rear, photograph and describe them. 422 pages Hardback. (Reprinted 1994). **£ 24.00**

*Members price £ 18.30*

**An index to the modern names for use with J.W. Tutt's Practical Hints for the Field Lepidopterist** by B.O.C. Gardiner

A valuable cross-reference guide between the scientific and English names used in the early 1900s and the present time. **£ 4.70**

*Members price £3.50*

- A Guide to Moth traps and their use** by R. Fry and P. Waring  
The first sections deal with the measurement and properties of light leading into the types of lamp available and the electrical circuits needed to operate them. The next sections give details of the construction of the most popular traps used in the UK. The last half deals with the practical use of traps in the field including where and when to trap, limitations of traps and their relative performance. 68 pages, 21 figures, 15 plates (1996) **£ 6.85**  
*Members price £ 5.05*
- The Amazing World of Stick and Leaf Insects** by Paul D. Brock  
A superb, comprehensive guide, for all those intrigued by these groups of insects. Topics covered include structure, fascinating facts, life history and development, defence behaviour, enemies, collecting, breeding (including trouble shooting), preserving, taxonomic studies, important collections in Museums etc. around the world and elaborate stories, beliefs and poems. Also outlines the major known species around the world on a regional basis. A section on Fossils is included. Includes a comprehensive glossary of the technical terms used in the description and classification of stick and leaf-insects. Hardback A5, 184 pages, 46 figures, 26 black and white plates and 40 pages of colour plates (containing 83 photographs and 4 drawings/paintings of insects and their habitats). (1999) **£ 18.90**  
*Members price £ 14.10*
- Rearing Parasitic Hymenoptera** by M. Shaw  
This booklet provides information on the parasitic Hymenoptera to enable successful studies to be made of this little understood group of the British insect fauna. Details are given on the general biology of parasitic wasps, rearing principles, efficient rearing practices and detailed methods of dealing with adult wasps. 52 pages, 4 colour plates (New edition – 2001) **£ 5.70**  
*Members price £ 4.20*
- Larval Foodplants of the British Butterflies** by Peter May  
A comprehensive compilation of the known larval foodplants of our native and immigrant butterflies. Also including "How to Encourage Butterflies to Live in Your Garden" by the late Peter Cribb 62 pages. (2003) **£ 7.40**  
*Members price £ 5.45*
- The larger water beetles of the British Isles** by Peter Sutton  
For those who love the spectacular larger water beetles of the British Isles, this is the publication that you have been waiting for! It is the only modern publication with colour illustrations of all of our aquatic coleopteran megafauna and it provides the most up-to-date distribution maps revealing their current distributions. Jam-packed with fascinating details of their life-histories, this book covers 11 species including the 6 native 'Great Diving Beetles' and the 'Silver Water Beetles'. It is also copiously illustrated with text figures and has much additional information including details of observed climate-induced range changes and the conservation measures required to ensure their continued survival. **£ 11.90**  
*Members price £ 8.90*
- Glossary for the Young Lepidopterist** **£ 1.05**  
6 pages, 2 figures. (1951) *Members price £ 0.90*
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Aid to the identification of some of the more difficult species. Reprinted from the *Amateur Entomologist* Vol. 5 (1941) and a *Guide to the Critical Species of Lepidoptera*, reprinted from *Entomologists' Gazette* 1969-72. 64 pages, 6 black and white plates, numerous figures (1985) **£ 4.45**  
*Members price £ 3.35*
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by Eddie John  
Observations of the 44 species of butterfly found on the island in 1998 including notes on each species and distribution maps. 46 pages (2000) **£ 4.30**  
*Members price £ 3.25*
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12 pages (including 2 plates). (1946) *Members price £ 1.00*
- Collecting Clearwings**  
12 pages (including 2 plates), 4 figures. (1946) **£ 1.10**  
*Members price £ 1.00*
- Collecting Lacewings**  
9 pages, 8 figures, 5 plates. (2nd edition 1976) **£ 2.25**  
*Members price £ 1.75*
- An Amateur's Guide to the Study of the Genitalia of Lepidoptera**  
16 pages, 15 figures. (1973) **£ 3.10** *Members price £ 2.35*
- Rearing the Hymenoptera Parasitica** **£ 2.55**  
16 pages, 1 plate, 10 figures. (1974) *Members price £ 2.00*
- Rearing Crickets in the Classroom**  
12 pages, 2 plates. (1986) (Reprinted 1993) **£ 2.10**  
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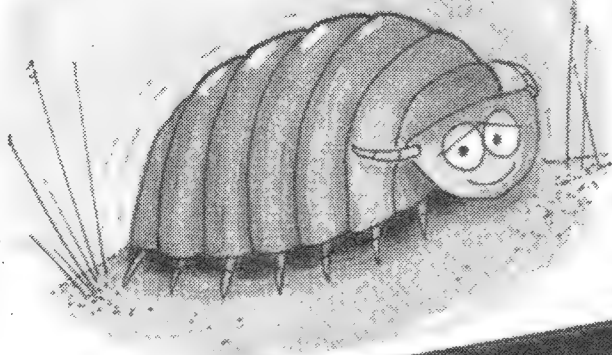
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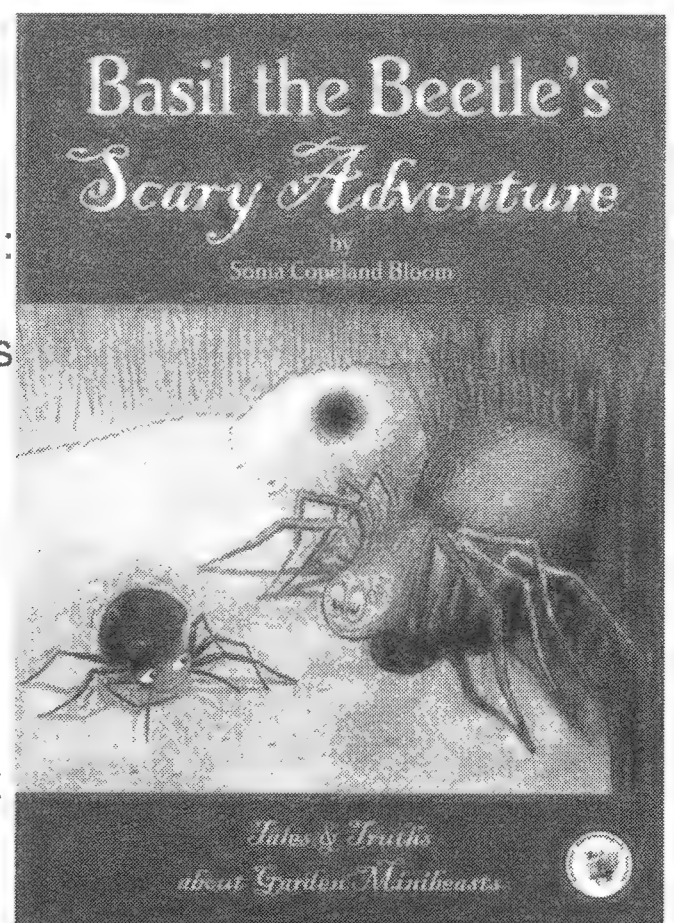
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I am grateful to Cowdray Estates for permission to trap at this site and to Graham Collins for identifying the specimen. — TONY DAVIS, 17 Orchards Way, West End, Southampton, Hampshire SO30 3FB (E-mail: pyralid.scheme@virgin.net)

***Stathmopoda pedella* (Linnaeus, 1761) (Lep.: Oecophoridae), a micromoth new to East Gloucestershire (VC 33), with various accompanying notes on its ecology and conservation**

Coln Park is a 650 acre estate near Lechlade in Gloucestershire (grid. ref. SU 19), with a variety of different wetland habitats set around six large lakes, and incorporating a development of holiday homes. Moth recording commenced there in 2009, with only casual observations being made until the purchase of a 125W MV Robinson trap. It was first put into action on the evening of 4 June 2010, and run on the following dates over the summer: 5, 12, 15, 17, 18, 19, 22, 23 June; 10, 11, 12 July; 11, 12, 17, 18, 31 August; 1, 8, 9, 13, 20, 21, 23 September. As of January 2011, a total of *c.* 1800 specimen records from *c.* 260 species have been made, including the first records of the distinctive microlepidopteran *Stathmopoda pedella* for Vice County 33 (East Gloucestershire). This flamboyant little moth was first observed in the trap on 10 July 2010 (two specimens), followed by further records on 11 July (2) & 12 (3), and on 12 August (2) & 17 (2), which suggests that there is a resident breeding population on the estate. These records are interesting for a number of reasons, in addition to their local novelty, as they have stimulated considerations of this species' phenology, life history, actual or potential host plants, habitat type and management and conservation. Observations on the frequency of moth recording at Coln Park in 2010 also bear relevance to this discovery.

This species' UK distribution is reported as being known in England south-east of a line from Somerset to Norfolk, with outlying populations in Lincolnshire, south Yorkshire and Cumbria (Emmet, A.M. & Langmaid, J. (eds.). 2002. *The Moths and Butterflies of Great Britain and Ireland (MBGBI)* (4)1. Harley Books). The upper limit of that line does appear to be shifting northwards, with existing records known from VCs 35 (Monmouthshire), 34 (West Gloucestershire) and now 33. It might perhaps appear in VCs 41 (Glamorganshire), 32 (Northamptonshire) and 53 (South Lincolnshire) in the near future and may be worth looking out for there.

Emmet & Langmaid give the UK flight time of the imago as July, although one of the only two known VC34 records, made in 1999, is from late June. Early August records have also been recorded (John Langmaid, *pers. comm.* 2010), but the records reported here from mid-August appear to be the first time this species has been recorded in the UK so late in the year. The Coln Park trapping was not, for a number of reasons, able to be carried out during the following periods: 23 June – 9 July, 12 July – 11 August, and 18 – 31 August. These gaps in the recording also coincidentally represent the potential beginning, middle and end of the recorded local flight season. It is therefore not clear when the earliest or latest



imagines were flying or what sort of numbers might have been present during these time periods. More regular trapping is intended for June to September 2011 and beyond, to help better understand the flight season's duration at Coln Park. It is therefore here proposed that the moth is considered as a univoltine species in the UK and its flight season recognised as being from late June to mid August, with numbers peaking in July.

The ovum and pupa appear to remain undescribed (Emmet & Langmaid, 2002) and efforts to locate these two stages will also be made in 2011 at Coln Park with a view to potentially describing them, if they can be found and bred out reliably. The known host plants are the UK native species Common Alder (*Alnus glutinosa*) and the introduced species Grey Alder (*Alnus incana*). Both of these species have been planted in abundance in plantation blocks at Coln Park between the late 1980s and 1996 as part of the restoration programme after gravel extraction. The exotic species Italian Alder (*Alnus cordata*) was also planted in abundance as a pioneer nurse crop species in much of these woodland areas and some specimens are quite mature, now reaching up to *c.* 15 metres high, with very productive fruit crop. It is postulated here that perhaps *Stathmopoda pedella* might also feed on Italian Alder, and so further research is needed to test this hypothesis, and to investigate the relative abundance of larvae across the three species of Alder.

Discovery of this extremely local moth means that the landscape and ecology management plans and actions for Coln Park are now being reconsidered, and the author proposes to retain as much alder habitat as practicable. Common Alder has colonised naturally around the margins of the various lakes created by the quarrying works, which combined with 10ha of plantation blocks containing *c.* 20% alder habitat, provides an estimate of of about 3ha of potentially suitable habitat on the estate. Emmet & Langmaid state that this moth is 'often restricted to two or three trees where alders are present'. If this is the case then the implications for habitat management are worth considering carefully. A proportion of the plantation blocks are to include holiday home construction, whereas other blocks are solely to be nurtured towards becoming mature and ecologically diverse woodlands without any built development. For the latter, this involves gradually removing non-native tree species in winter, such as Corsican Pine (unclear infraspecific name and rank within *Pinus nigra*), Norway Maple (*Acer platanoides*), Sycamore (*Acer pseudoplatanus*), European Larch (*Larix decidua*) and Italian Alder. This will allow more light into the understorey and encourage the native plant species present, such as Ash (*Fraxinus excelsior*), Cherry (*Prunus padus*), Silver Birch (*Betula pendula*), White Willow (*Salix alba*), and of course Common Alder. Until more is known about the possible use of Italian Alder as the moth's foodplant, no additional Italian Alder will be removed from these areas. For the construction zone blocks, there is a requirement for clearing of almost all trees in certain areas of the plantation. Where wholesale clearances are required it is often not possible to retain trees that lie within the construction footprint, but occasionally it is practicable to retain one or more trees, so alder specimens will in

future be retained wherever possible. As part of the standard landscaping around new homes 126 Common Alder specimen trees have already been planted, with many of these now reaching seven to eight metres in height and producing abundant cone crops, which will hopefully provide suitable habitat and food supply for this moth species. Results of future surveys will also perhaps be usable in the design of more specific conservation management actions for *Stathmopoda pedella* — BENEDICT JOHN POLLARD, Landscape and Ecology Manager, Coln Park, Lechlade, Gloucestershire GL7 3DT (E-mail: benedict.pollard@gmail.com).

### ***Mompha bradleyi* Riedl (Lep.: Momphidae) in East Suffolk**

On most nights, throughout the year, I run a light trap in my semi-urban garden on the edge of Eye in the northern part of East Suffolk (VC 25). The garden is south-facing and adjoins a playing field with mature hedgerows and a fourteen acre, mixed, deciduous wood with ponds and mostly willow, alder and poplar trees. The area is in a low-lying river valley with the River Dove, a tributary of the River Waveney, passing within a quarter of a mile of my house.

The night of 26 October 2010 was mild and overcast with a minimum temperature of 9.7°C and a moderate south-westerly wind. I ran a 15-watt actinic lamp with the Skinner trap in the usual sheltered position beside an evergreen hedge and beneath a large Sycamore *Acer pseudoplatanus* tree. By the morning the trap held a good selection of the usual late autumn species including Blair's Shoulder-knot *Lithophane leautieri* (Boisd.), Beaded Chestnut *Agrochola lychnidis* (D.& S.), Brick *A. circellaris* (Hufn.), Yellow-line Quaker *A. macilenta* Hb., Red-line Quaker, *A. lota* (Cl.) and Green-brindled Crescent *Allophytes oxyacanthae* (L.). In the poor light a micro moth that was tucked away in a corner of the trap nearly escaped my attention, but it was potted and taken indoors for a closer examination. I was reasonably confident that it was a species of *Mompha*, but not one that I recognised. Reference to *The Moths and Butterflies of Great Britain and Ireland vol. 4, part 1* (Harley Books) and some moth photo websites allowed me to provisionally identify it as either *Mompha divisella* or *bradleyi* – a separation that cannot be performed using external features alone. *Mompha divisella* is a rare moth in Suffolk; according to the Suffolk Moth Group website it was last recorded here in 1936. I therefore e-mailed photographs to Tony Prichard, the County Moth Recorder, for his opinion. He agreed that it was not possible to be sure it was *M. divisella* and so I sent the moth to Jon Clifton for genitalia determination.

A few weeks later Jon was able to give me the news that it was in fact *Mompha bradleyi*. This is evidently the first time that *M. bradleyi* has been recorded in East Anglia, although there are records for Hertfordshire (Plant, 2008. *The Moths of Hertfordshire*. HNHS) and for both Bedfordshire and Huntingdonshire (J. Langmaid, personal communication). Of course, some, at least, of the old records of *M. divisella* may have been this species, given the historical confusion between the two. — PAUL KITCHENER, 11 Magdalen Street, Eye, Suffolk IP23 7AJ.

## ON *SATURNIA PAVONIA* (LINNAEUS, 1758) AND *SATURNIA PAVONIELLA* (SCOPOLI, 1763) (LEP.: SATURNIIDAE)

BOYAN ZLATKOV

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### Abstract

Four taxa belonging to subgenus *Saturnia* (*Eudia*) Jordan in Seitz, 1911 are reported for the Bulgarian fauna. *S. (E.) pavonia* (Linnaeus, 1758), *S. (E.) pavonia ligurica* (Weismann, 1876) and *S. (E.) pavoniella* (Scopoli, 1763) are the subjects of this study. Most Bulgarian reports refer to *S. (E.) pavonia*. After careful examination of all specimens preserved in the collection of the National Natural History Museum and several other collections containing Bulgarian specimens, it was found that all individuals belong to *S. (E.) pavoniella* and that *S. (E.) pavonia* does not occur in Bulgaria. Evidence for hybridisation between the two species was established on several occasions.

**Key words:** *Saturnia pavoniella*, Bulgaria, hybridisation, genitalia.

### Introduction

Seitz (1911) reports four taxa belonging to subgenus *Eudia* Jordan in the Bulgarian fauna: *S. (E.) spini* ([D.& S.], 1775), *S. (E.) pavonia* (L., 1758), *S. (E.) pavonia ligurica* (Weismann, 1876), and *S. (E.) pavoniella* (Scop., 1763). Huemer & Nässig (2003) considered that *S. (E.) pavonia ligurica* and several related taxa are junior synonyms of *S. (E.) pavoniella*, leaving us with just three full species. Two species from this group are present in Europe: *S. (E.) pavonia* and *S. (E.) pavoniella* and it is generally believed that the first species is distributed in the northern part of the continent and the second one has a southern distribution. Species within the *pavonia-pavoniella* group show small differences in wing pattern, size and shape of the wings and colouration of the abdomen in females, but the most important differences are manifested in the male genitalia. In spite of this, however, the status of both species is unclear in several regions of Europe. Most publications concerned with the Bulgarian moth fauna report only *S. pavonia*. The first mention of *S. pavonia ligurica* in Bulgaria is given in Freina & Witt (1987). However, apart from Zlatkov (2007) there are no indications that the genitalia of *Saturnia* species has been investigated in Balkan populations. The objective of the present study is to clarify which species do occur in Bulgaria and what their distribution is.

### Material and methods

A total of 185 specimens was examined from the author's own collection, from that of Dr Stoyan Beshkov (Sofia) and from those of the National Natural History Museum, Sofia and the Institute of Biodiversity and Ecosystem Research (IBER) at the Bulgarian Academy of Science. Male genitalia were mostly examined after

removal of the scales and hairs from the last abdominal segments (Fig. 1). Most females were identified by the wing pattern, but in some examples where the pattern was worn, genitalia were examined.

## Results

### Males

The structure of their genitalia in the sample of males generally corresponds to *S. pavoniella*. However, in several specimens the uncus has an almost rectangular medial incision which is characteristic of *S. pavonia* (Fig. 1, 2).

The other taxonomically important character is the presence of a spine at the distal end of the sacculus. In this respect all males could be related to *S. pavoniella*. The spine is lacking in all specimens except one (Fig. 3). This specimen has very small spines, smaller than in a typical *pavonia*. The spine on the left valva is larger; the same state is observed in Italian populations of *S. pavoniella* (Huemer & Nässig, 2003). The wing pattern is intermediate, exhibiting features of both species (Plate 11, Fig. 3).

According to the wing pattern, examined males divide into two groups: the larger (95 specimens) are referable to *S. pavoniella* (Plate 11, Fig. 1) but, interestingly, 23 possess characters that are closer to *S. pavonia* (Plate 11, Fig. 2). If the genitalia of this latter group had not been examined, these males would have been identified as *pavonia*.

### Females

The female genitalia demonstrated wide variation and could not be used for reliable identification.

The main difference in wing pattern is the shape of the post-medial and the submedial lines, which are straight in *pavonia* and curved in *pavoniella*. In contrast to males, this character is clear and stable in females (Huemer & Nässig, 2003). Most females could be identified as *S. pavoniella* (58 specimens, Plate 11, Fig. 4), but in several cases the lines are straight and typical for *pavonia* (9 specimens, Plate 11, Fig. 5). The genitalia of these specimens did show a distinct relation with *pavoniella*, although as stated above, the female genitalia are unreliable for correct determination.

The pattern of the abdomen was also examined and one typical *pavonia* pattern was found.

## Discussion

Although Bulgarian specimens of the *pavonia-pavoniella* group possess several characters typical for both species, they undoubtedly belong to the taxon *Saturnia (Eudia) pavoniella*. Distinct evidence for this is provided by the structure of the



male genitalia. All reports for *S. pavonia* should be treated as reports for the other species. The mixed features of some specimens could be explained by hybridisation (see Huemer & Nässig, 2003). Similarly, hybrid populations are known from other parts of Europe, including southern France and north-eastern Spain. According to Huemer & Nässig (*op. cit.*) there are two possibilities for the presence of such specimens: (1) the intermediate specimens are F<sub>1</sub>-hybrids of both species in the regions where their areas of distribution are partially overlapping or (2) the hybrid specimens result from introgression (a low number of the F<sub>1</sub>-hybrid males are fertile and could mate with females from one of the initial species; the F<sub>1</sub>-females are always sterile). It is likely that hybridisation between the species may occur in the (as yet un-defined) border area between the Central European population of *S. (E.) pavonia* and the Balkan population of *S. (E.) pavoniella*. It is possible that fertile male hybrids might then mate with *pavoniella*-females and that this could be the reason for the existence of Bulgarian specimens with intermediate characters.

Unfortunately, 'Emperor' moths have been collected rather irregularly in Bulgaria and always in small number; many museum specimens have been reared from eggs and lack locality data. Consequently, comparisons or analyses of distribution of the characters based on the museum specimens would be speculative. About 82.7% of all Bulgarian specimens exhibit the wing pattern of *pavoniella* and the rest, about 17.3%, have characters of *pavonia*. The following records of *S. pavonia* and *S. pavoniella* are known from Bulgaria and are presented in Map 1.

Razgrad; Veliko Tarnovo; Stara planina Mts: Gorni Lom and near Cherkaski, Berkovitsa, Iskar Gorge, Shipka, Sliven; Black Sea Coast: Varna, Burgas; Sofia and its vicinity; Lyulin Mts.: Krapets; Zemen Gorge: Skakavitsa; Konyavska Mts.: Tavalichevo; Sredna gora Mts: Koprivshtitsa; Besaparian Hills near Pazardzhik; volcanic hill of Kozhuh near Petrich; Mesta Valley: Gotse Delchev, Hadzhidimovo, Blatska; Western Rhodopes Mts: Belovo, Chepelare; Eastern Rhodopes Mts.: Studen kladenets, between Kaloyantsi and Gnyazdovo, Arda chalet near Dabovets, Svirachi (Buresh, 1915; Ganev, 1984; Freina & Witt, 1987; Beshkov, 2000; Beshkov & Langourov, 2004; Abadjiev & Beshkov, 2007; Zlatkov, 2007).

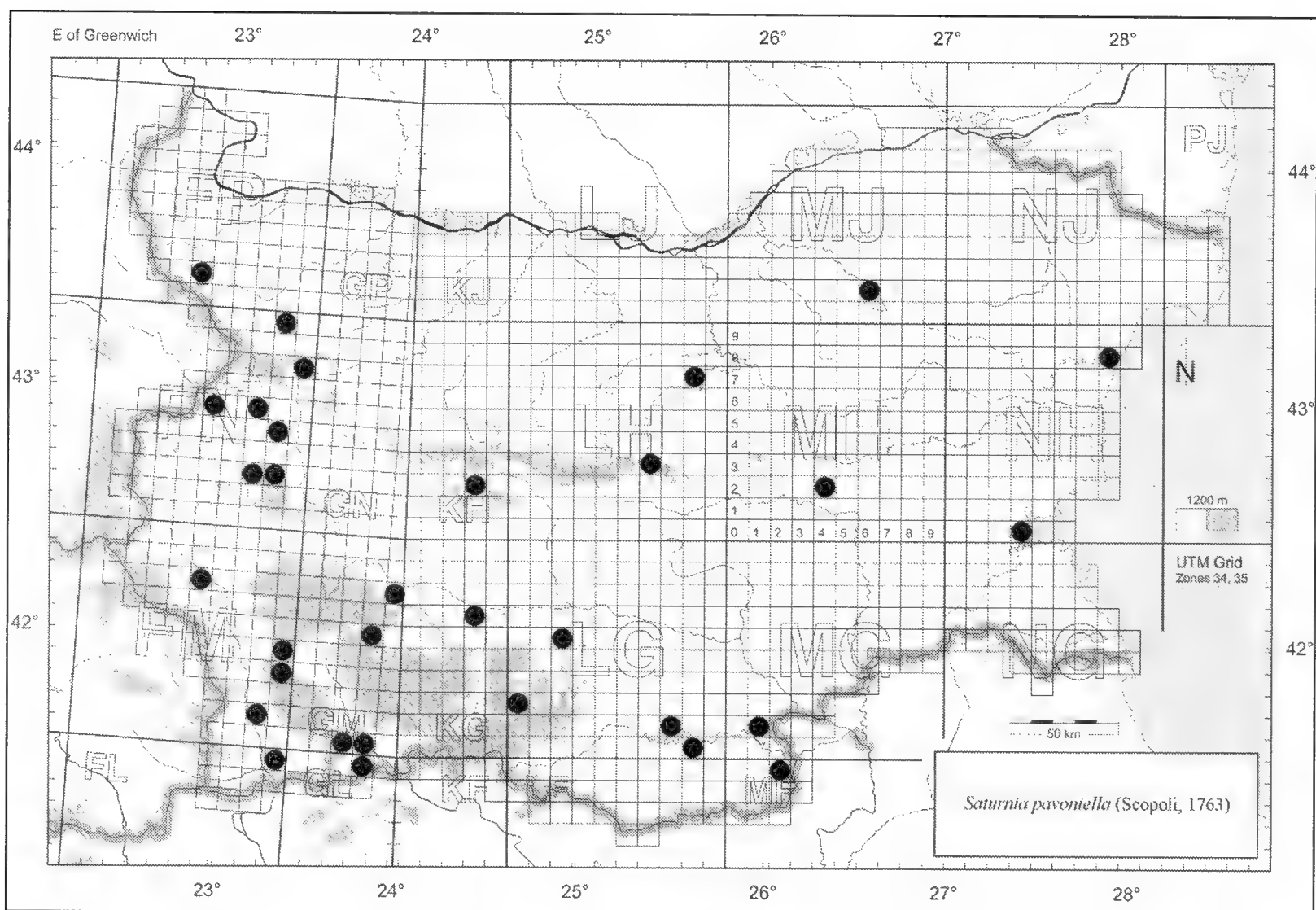
New records: Western Stara planina Mts: near Ponor, Chepan Hill, Golem izvor near Ablanitsa; Lyulin Mts.: Vladaya; Byaga near Pazardzhik; Struma Valley: Skrino Gorge, Kamenitsa near Sandanski, Rupite near Petrich.

### Acknowledgements

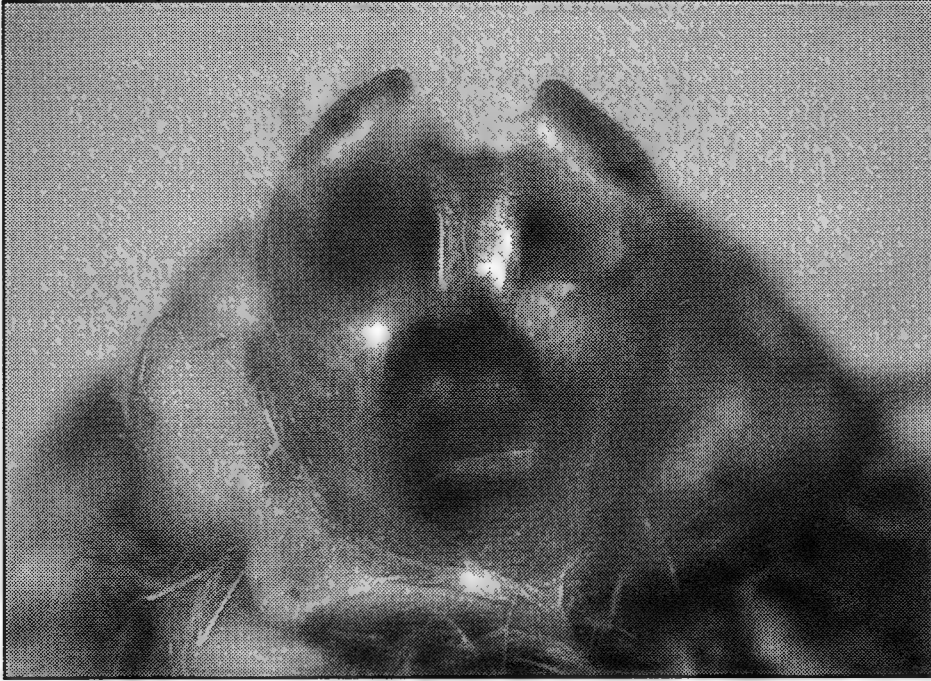
I would like to thank Dr. S. Beshkov (National Natural History Museum) who assisted me in researching the Museum collection, Dr. T. Lyubomirov, curator of the Depot of IBER, Dr. S. Abadjiev who provided the UTM map, and Colin W. Plant (Bishops Stortford, England) who corrected the text.

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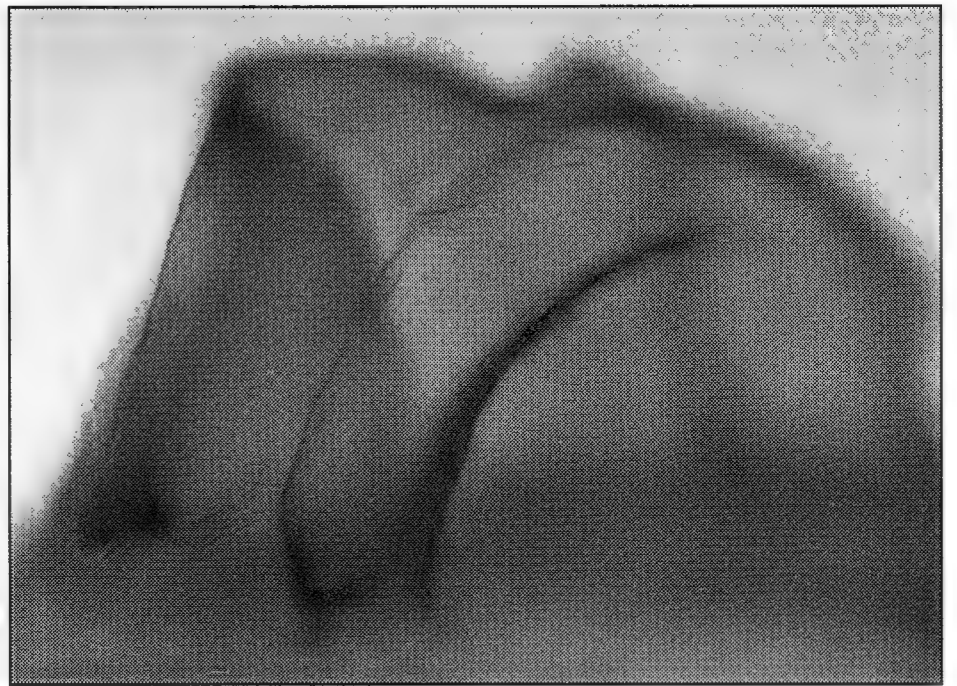
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**Map 1.** Known distribution of *Saturnia pavoniella* (Scop., 1763) in Bulgaria.



**Figure 1.** Brushed male genitalia of *S. pavoniella*. The uncus has rectangular incision. Tarnovo, e. l. 24.iii.1931.

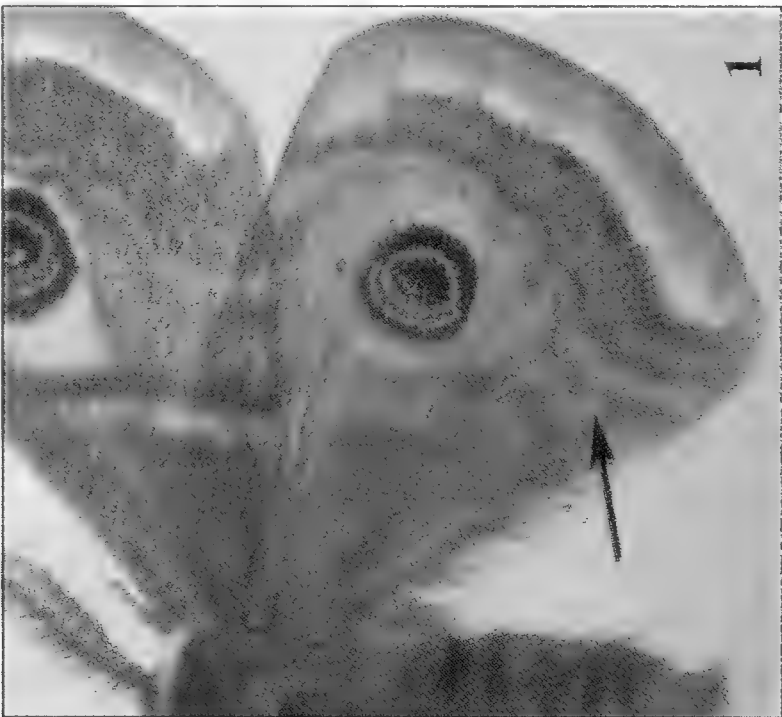


**Figure 2.** *S. pavoniella*. Uncus with almost rectangular incision. Gorna-Djumaja [=Blagoevgrad], iii.1930, N. Fenenko leg.



**Figure 3.** *S. pavoniella* male genitalia with intermediate characters. A small spine on the left valva (arrow) is visible. The uncus has rectangular incision. Lyulin Mts., Vladaya Vill., 03.v.1955, S. Bocharov leg.





**Plate 11.** Wings of *Saturniella pavoniella* (Scop.)  
1. Male with typical *pavoniella* wing pattern, [Sofia,] e. 1. 15.iii.1922; 2. Male with typical *pavonia* wing pattern. *Idem*; 3. Male with intermediate characters; 4. Female with typical *pavoniella* wing pattern, Sofia, e. 1. 02.iv.1922; 5. Female with typical *pavonia* wing pattern. [Sofia, e. 1.] 04.iv.1922. The arrows show important external character, the shape of post- and sub-median lines.





***Cnephasia hellenica* Obraztsov, 1956 (Lep. Tortricidae: Tortricinae): an addition to the Bulgarian fauna**

During a visit to Bulgaria in the company of Colin Plant (UK) and Balázs Benedek (Hungary) in May 2010 we had arranged to meet up with the Bulgarian lepidopterist Stoyan Beshkov in the north-east of the country. Unfortunately this coincided with a period of unsettled weather with strong drizzle and uncharacteristically low temperatures. Thus the prospects for our first night's trapping after meeting up with Stoyan on 16 May did not bode well, particularly as we arrived at the site, the steppe grasslands at Kaliakra in the Dobric Region of the Black Sea coast (43°22'.43"N 28°27'.47"E), after dark.

Conditions were clearly not conducive to running a light over a sheet, but ever optimistic we did deploy a 125-watt Robinson-pattern mv trap and two or three actinic traps close to the vehicles and tents. The following morning the catches were predictably poor but I retained a number of specimens, amongst which were several belonging to the genus *Cnephasia*.

After my return home it was some time before I dealt with the material collected and dissection of specimens was spread over several months. Amongst the samples was an indistinctly marked male moth that I determined from examination of its genitalia to be *Cnephasia hellenica* Obraztsov. Razowski (1996. in Karsholt & Razowski (Eds.) *The Lepidoptera of Europe: A Distributional Checklist*) lists this species only from Romania, Greece, the European part of the former Soviet Union and in western Europe from Spain and Portugal. More recently, Razowski (2002. *Tortricidae of Europe. Volume 1: Tortricinae and Chlidanotinae*. Slamka), appears to suggest that the European range extends continuously from Spain and Portugal in the west to Greece in the east, but only as far north as Romania. The Fauna Europaea website shows that there are in fact European records for Spain, Portugal, Italy, Greece, Romania and the Ukraine.

To check if there had been any subsequent record from Bulgaria, contact was made with Boyan Zlatkov at the Faculty of Biology at Sofia University to whom I sent photographs of both the moth and the genitalia slide. He kindly confirmed the determination and that there was no previous record from Bulgaria. — H. E. BEAUMONT, 37 Melton Green, West Melton, Rotherham, South Yorkshire S63 6AA.

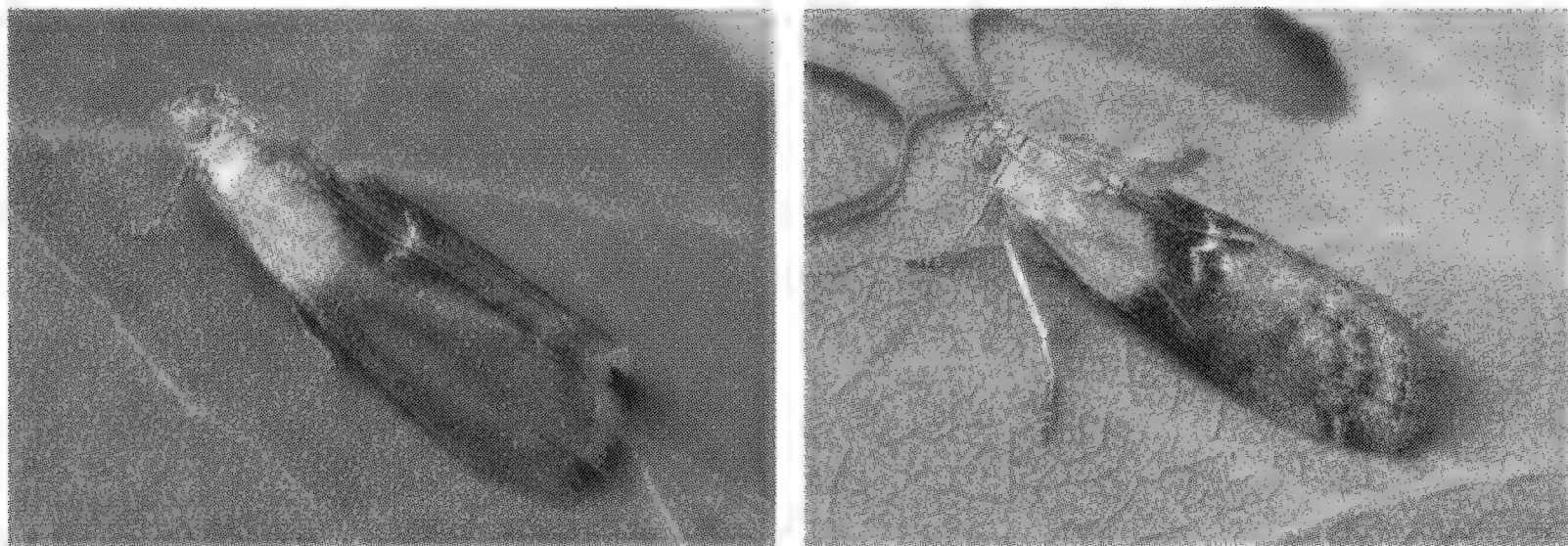
**Evidence of *Sciota adelphella* (F. v. R) (Lep.: Pyralidae) breeding in northern Suffolk (VC 25)**

Prior to 1990, a total of on 15 British records of *Sciota adelphella* is known. Most were made in Kent, but two were from Suffolk, at Thorpeness on the coast, in 1964 and 1989. Since 1992 *S. adelphella* has become established in coastal east Kent and more recently may also have become established in West Kent and East Sussex (Mark Parsons, pers. comm.). Scattered records from other southern counties may be the result of immigration or also recent colonisation. However, it remains scarce in Suffolk, with 47 records from 2001 to 2009 inclusive and none in the years 2002 and 2004. Oddly, there is only one record from Norfolk (Eccles-on-Sea, June 2003), though this difference is probably explained by Suffolk's more favoured position for attracting migrant moths.

My semi-urban garden in Eye, in the northern part of the East Suffolk vice-county (VC 25), is three miles (5 Km) from the Suffolk/Norfolk border and approximately 30 miles (48 Km) from the coast. It is south-facing and backs on to a small playing field surrounded by mature hedgerows. Adjoining the west side of the field is a 14-acre (5.6 hectare) mixed, deciduous wood with ponds and mostly willow *Salix* spp., alder *Alnus* spp. and poplar *Populus* spp. The area is in a low-lying river valley with the River Dove, a tributary of the River Waveney, passing within a quarter of a mile (400metres) of my house.

I frequently operate either a 125 watt MV Robinson trap or 15 watt Actinic Skinner trap in the garden throughout the year and, although I am a good distance from the coast, I have caught a good number of migrants in the ten years I have trapped at this site. These have included *Loxostege sticticalis* (L.) *Duponchelia fovealis* Zell. *Vitula biviella* (Zell.) Vestal *Rhododmetra sacraria* (L.) (3), Gem *Orthonama obstipata* (Fabr.) (8), Rannoch Looper *Itame brunneata* (Thunb.), Gypsy Moth *Lymantria dispar* (L.), Great Brocade *Eurois occulta* (L.), Delicate *Mythimna vitellina* Hb.), Red Sword-grass *Xylena vetusta* (Hb.), Small Mottled Willow *Spodoptera exigua* (Hb.) (10), Clancy's Rustic *Platyperigea kadenii* Freyer, Scarce Bordered Straw *Helicoverpa armigera* (Hb.) (5), Dewick's Plusia *Macdunnoughia confusa* (Steph.) (2) and Scarce Silver Y *Syngrapha interrogationis* (L.). There have also been a few unexpected wanderers from the coast during periods of warm weather and easterly winds such as *Ethmia bipunctella* (Fabr.) *Aristotelia brizella* (Tr.) and *Pima boisduvaliella* (Guen.).

I first recorded *Sciota adelphella* at Eye in 2003, with two moths in early July and I considered them to be migrants, there having been two the previous month on the coast at Landguard, Felixstowe. I have now recorded it 18 times with a total of 33 individuals between the dates of 21 June and 18 July with maxima of six moths on two nights in 2010. Currently there are no other records of *S. adelphella* known for Suffolk in 2010 (Tony Prichard, pers. comm.), yet between 2 and 18 July I had six records of 18 moths. Only in 2004 and 2007 did I not see this moth and although there were also no county records in 2004 there were seven in 2007. The Eye records are the only inland Suffolk records and have all been within a four week period whilst all the other recent (since 2001) Suffolk



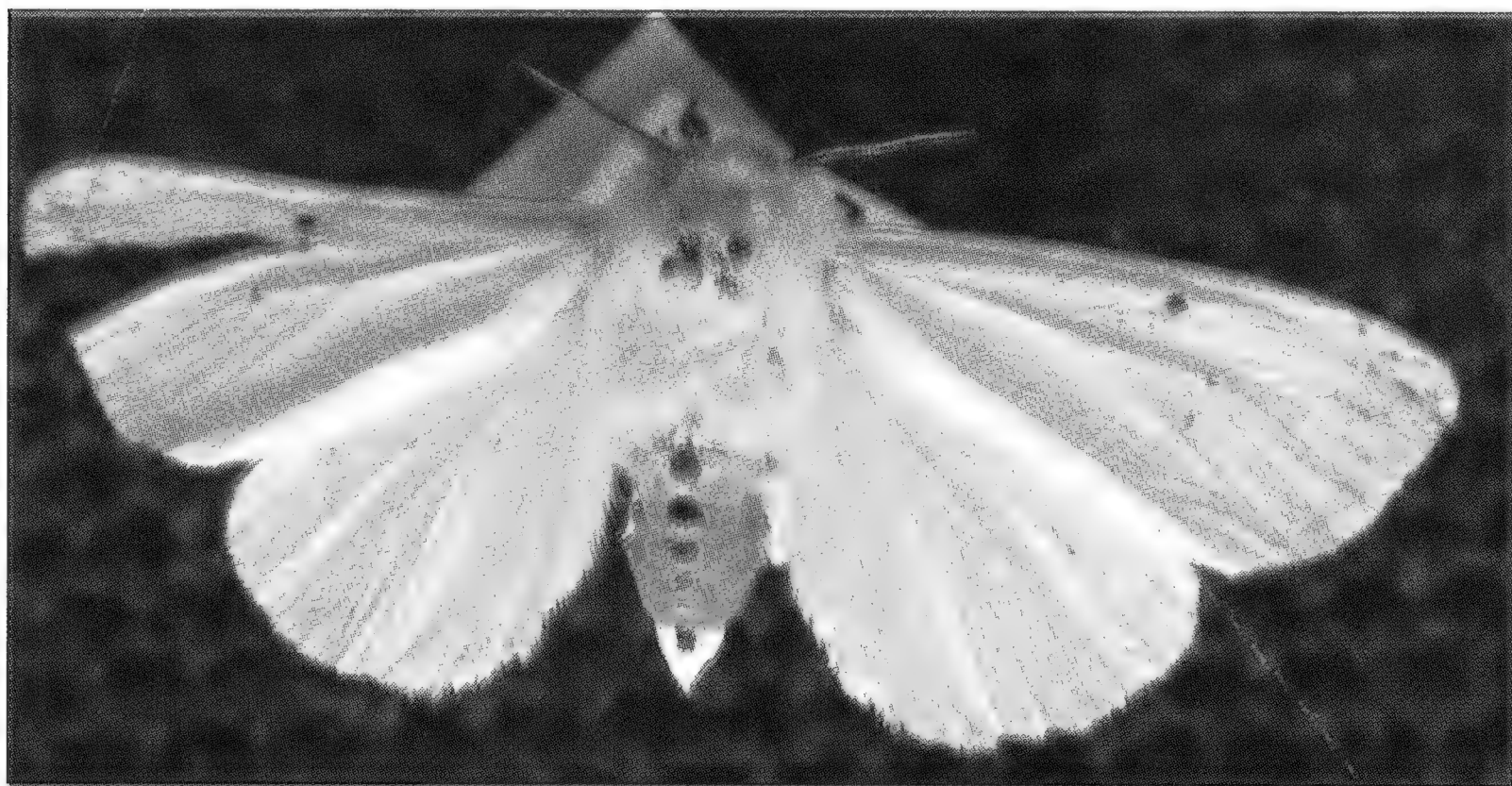
**Plate 12.** Two different forms of *Sciota adelphella* (F.v.R.) captured in Suffolk.

records have been in the south-east between Orfordness and Felixstowe and have been spread between 4 June and 5 September.

Such a concentration of records strongly suggests the presence of a resident local colony that may on occasions be reinforced by immigration.— PAUL KITCHENER, 11 Magdalen Street, Eye, Suffolk IP23 7AJ.

**Scottish records of the Water Ermine *Spilosoma urticae* (Esp.) (Lep.: Arctiidae)**

The suggestion in the review of the Provisional Atlas of the UK's Larger Moths by Les Hill, Zoe Randle, Richard Fox and Mark Parsons (Anon 2011. *Ent. Rec.* 123: 55-56) that a dot for Water Ermine *Spilosoma urticae* (Esper) in Scotland was a candidate for error prompts us to flag up a record from much farther north: Fair Isle, Shetland (O. S. grid HZ 27). The moth in question (Plate 13) was caught in the Fair Isle Bird Observatory MV trap on the night of 7 June 2002. Barry Goater doubted the identification on first being told, so was sent the specimen for clarification. The answer came back 'yes it is and what on earth is it doing up there!' (B. Goater *in litt.*). It is indeed an extraordinary record, judging from the



**Plate 13.** *Spilosoma urticae* (Esper) Fair Isle, 7.vi.2002.

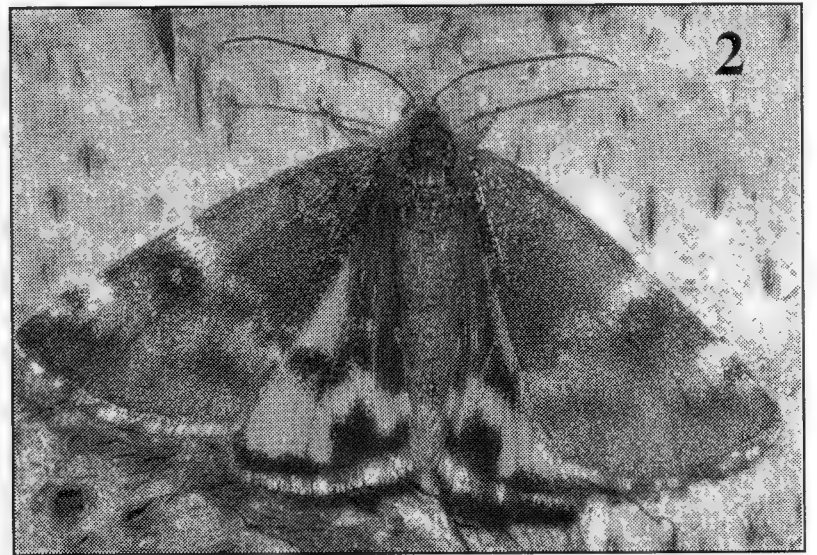


overall UK distribution of the species (see Provisional Atlas) and a continental origin for our individual seems more feasible. Fauna Europaea cites the species as occurring in Norway, Sweden, Denmark, Germany and the Netherlands ([www.faunaeur.org](http://www.faunaeur.org)), all countries ringing the North Sea. — NICK J. RIDDIFORD, Schoolton, Fair Isle, Shetland ZE2 9JU and DERYK SHAW, Fair Isle Bird Observatory, Fair Isle, Shetland ZE2 9JU.

### **A confusion of Orange Underwings *Archiearis parthenias* (L.) and *A. notha* (Hb.) (Lep.: Geometridae)**

On 6 April 2010, CWP and PJ went to the Broxbourne Woods National Nature Reserve in southern Hertfordshire intent on determining which species of *Archiearis* (orange underwings) were present. Arriving at 15.00 hours, we found moths flying in good number amongst and above the birch tree tops, about 10-20 metres high, every time the sun came out but stopping when it vanished behind the clouds. The stiff breeze did not deter them. Most were flitting about the tops of birches, moving from one nearby tree to another, but occasionally one would fly off, positively and with an apparent sense of purpose, in a straight line across the clearing (still about 10-20 metres up) to trees several hundreds of metres away. Neither of us had witnessed this before. Most tall birch trees in the large clearing had moths flying in their crowns, easily seen against the sky – overall around 100 moths. In spite of there being two large willow bushes in full bloom none of the moths visited these. However, at about 16.30 hours, one foolish individual flew low past the willow bush and on across the clearing about three metres above the ground and we managed to net it! From the date and the fact that it was undoubtedly associated with Birch, we assumed that it would be the ordinary Orange Underwing *Archiearis parthenias*, and so we were very surprised to find that it had clearly bipectinate antennae, indicating that it was a male Light Orange Underwing *Archiearis notha* (Plate 14). It was not fresh and had probably been out for at least a few days. There are two or three Aspen *Populus tremula* trees in a small group 200 metres away, but the very many moths we were watching were all flying in the top of the birches in an area where Aspen is quite absent. We eventually caught two more and left the site at 17.30 when there were still small numbers flying in the birch crowns.

During 2011, CWP and LH visited the same site on 20 March, arriving at around 14.00 hours. The sun was extremely patchy and there was a slight breeze, so we were not exactly filled with confidence that many moths would be seen. However, even as we walked down the main ride from the car park we started to see adults flying at the tops of the birches. After being accosted by several members of the public (all of whom were very interested once we explained that we were recording wildlife for the nature reserve) we headed rapidly to the clearing and were almost immediately rewarded with the sight of a dozen or so individuals amongst the birch tops. Both LH and my daughter Rosie set about



**Plate 14.** Antennae of orange underwings *Archiearis* spp. males. 1. *A. notha* (Light Orange Underwing) – male with bipectinate antennae; 2. *A. parthenias* (Orange Underwing) – male with simple antennae. Photographs © Edward Plant, 2011.

catching some with a large net on a long pole, whilst I lay on my back on the ground and ‘observed’. Again, the main activity was localised in the tops of birch trees with occasional encounters involving two (occasionally three) individuals in apparent ‘aerial combat’ after which the presumed ‘loser’ headed away without dropping altitude to a different group of birches. I observed over 30 such encounters in half an hour. On rare occasions, single individuals magically appeared at a lower level, typically around three or four metres above the ground and we managed to net three of these, all males and all in absolutely pristine condition – two were *notha* and one was *parthenias*.

Skinner (2009. *Colour identification guide to Moths of the British Isles*. Apollo Books) lists birches *Betula* spp. and Rowan *Sorbus aucuparia* as the larval foodplants used by *A. parthenias* and Aspen as that of *A. notha*. Porter (1997. *The colour identification guide to caterpillars of the British Isles*. Viking) follows the earlier edition of Skinner’s work in listing the same pabula. Hausmann 2001. *The Geometrid Moths of Europe. Volume 1*. Apollo Books) also lists birches and Rowan for *parthenias* (but also adds Beech *Fagus*), and for *notha* has Aspen and birches, as well as other species of *Populus* in the Far East and on *Salix alba* and *Salix fragilis* in Hungary.

As for flight period, Hausmann (*op. cit.*) gives early March to late April for both species for the whole of Europe, but for Britain Skinner (*op. cit.*) has *parthenias* earlier, in March and April with *notha* from late March to mid April.

In Hertfordshire, it is now abundantly clear that both species fly together at the same time in March and April and that both are to be found in the tops of birch trees, so that the ‘conventional wisdom’ that if they are in the birch crowns they are *parthenias* is clearly unreliable. A ‘confusion’ of orange underwings is therefore suggested as a new collective noun! Regrettably, our net poles were not

long enough to determine whether the tree-top combats were intra- or inter-specific. — LES HILL, 48 East Lodge, East Lulworth, Wareham, Dorset BH20 5QL, PHIL JENNER, 46 Reynolds Court, Newport, Essex, CB11 3RJ and COLIN W. PLANT, 14 West Road, Bishops Stortford, Hertfordshire CM23 3QP (Email: cpauk1@ntlworld.com).

### **Additions to the Macro-moth list of Huntingdonshire (vice-county 31) and other records of interest during the last decade**

During the past decade several new species of macro-moth have been added to the Huntingdonshire county list. The first of these was Webb's Wainscot *Archanara sparganii* (Esp.), which was first recorded by myself in Littless Wood, Grafham Water on the night of 30 July 2001. It has subsequently been recorded on a further twenty occasions throughout the county. A Northern Deep Brown Dart *Aporophyla lueneburgensis* (Freyer) was found in the Rothamsted trap at Monks Wood on 25 September 2002. The following year, on 8 July 2003, a Blomer's Rivulet *Discoloxia blomeri* (Curtis) was also found in this trap. During 2005 two more additions were made to the county list. The first of these, a Kent Black Arches *Meganola albula* (D.&S.), was taken on 14 July by David Griffiths in his garden trap in Earith. This was followed on the 8 September by a Feathered Ranunculus *Polymixis lichenea* (Hb.), which was caught by Kevin Royles in his garden trap at Old Weston. No further additions to the county list were made until 2008 when on 4 June Philip Horsnail found a Devon Carpet *Lampropteryx otregiata* (Metcalf) in his trap, which he runs near Holme village. Also during 2008 David Griffiths recorded the first Saltern Ear *Amphipoea fucosa paludis* (Tutt) in Huntingdonshire, at Earith, on 26 August. Kevin Royles recorded another on 30 August in his trap at Old Weston. Steve Dudley caught one on 16 August 2009 at Farcet Fen and David Griffiths trapped a second in his garden on 6 August 2010. All the Saltern Ears have been confirmed by dissection. On 23 August 2009 David Griffiths found a Tree-lichen Beauty in his trap at Earith.

Three more additions were made to the county list during 2010. The first of these a Glaucous Shears *Papestra biren* (Goeze) was found by Martin Davies in his trap on 4 June. Martin was unsure of the moth's identity, so it was passed to myself along with his usual collection of macros and micros that require dissecting to get to names. I confirmed Martin's thoughts and asked if he had taken any photographs of it while it was alive. Luckily he had, so I posted one on the Huntingdonshire Moth and Butterfly Group web site ([www.hmbg.org](http://www.hmbg.org)). According to the maps in Hill et al (2010. *Provisional Atlas of the UK's Larger Moths*. Butterfly Conservation), there are no records of this species anywhere in the counties surrounding Huntingdonshire, so it is a rather unique record for this part of Britain. The second addition to the county list for 2010 was the Beautiful Snout *Hypena crassalis* (Fabr.), which Philip Horsnail caught it in his trap near Holme village on the night of 8 July. Philip telephoned me the following day and



we arranged to meet so that I could collect the moth, which was rather tatty, but still easily recognised. Once again this is a species that, according to the *Provisional Atlas* is extremely rare in this part of the country. The final addition to the county list was a Waved Black *Parascotia fuliginaria* (L.), which came to my mv light above a sheet in Waresley Wood on the night of 19 July.

There have been several other interesting finds in the macro-moths during the last decade, so I mention some of them here. I have however, omitted the large influxes of migrants that occurred during the last decade as these have been well documented by various authors elsewhere.

On 27 July 2002 Faith Darlow and Stephen May caught a Wormwood *Cucullia absinthii* (L..) at their mercury vapour light which they were operating above a white sheet during a public event at Little Paxton Pits Local Nature Reserve. The moth was boxed as unknown and handed to myself for identification. A further example of this species was found on Woodwalton Fen on the night of 1 July 2005 when one arrived at Pete Saunder's trap while he was attending a moth-trapping event organised by the Huntingdonshire Moth and Butterfly Group. The only previous records of this species in Huntingdonshire were in 1993 when Howard and Debbie Hillier found one in their garden moth trap and subsequently Howard found larvae feeding on Wormwood *Artemisia absinthium* along a disused railway line close to their home in Old Fletton. The Bedstraw Hawk-moth *Hyles gallii* (Rott.) was seen on four occasions during the last decade. The first was on 17 July 2002 when John Chainey and others from the British Museum (Natural History) trapped one on Woodwalton Fen. This was followed on 12 August 2003 when Duncan Ritchie caught one in Kings Ripton. The third was taken on 17 June 2004 by Austin Wallis at Ramsey Heights and the fourth on 11 July 2005 when Brian Stone caught one in Elton. These are the first records of this species since 1991.

A Dark Spectacle *Abrostola triplasia* (L.) was found in the Rothamsted trap at Monks Wood on the night of 14 August 2005. The first Huntingdonshire record since 1983. Three others have subsequently turned up in the county; these being on 29 August 2006 at Old Weston, Kevin Royles; 14 July 2008, Earith, David Griffiths and 29 July 2008, St Neots, Bob Scott. Brian Stone found a White-point *Mythimna albipuncta* (D.&S.) in his garden trap on 21 June 2006. This is the first county record since the publication of the *VCH* (Omer-Cooper, J., 1926. *Lepidoptera*. In: Page, W and Proby, G. (eds). *The Victoria History of the County of Huntingdonshire* 1: 118-137). Since Brian's record, the White-point has been recorded on a further sixteen occasions at various sites. Three of these were in August 2006, followed by a further three in 2008 and two in 2009. In 2010 David Griffiths recorded the White-point eight times in his garden trap between 6 August and 3 September, which may indicate that they were probably breeding locally.

On 6 September 2006 Andrew Frost recorded a Small Ranunculus *Hecatera dysodea* (D.&S.) in his trap at Yaxley. The first Huntingdonshire record since the publication of the *VCH*. The next record was from Orton Waterville on 27 June 2009 when Jonathan Newman had one in his garden trap. Andrew Frost recorded

another at Yaxley on 20 July 2009. During 2010 it was recorded on three occasions at Orton Waterville and Andrew Frost caught one in his Folksworth trap on 29 June. On 28 September 2006 an Autumnal Rustic *Eugnorisma glareosa* (Esp.) came to my moth trapping sheet in Hazelcroft, Gamlingay Wood. Martin Davies recorded another on 5 October 2007 in Great Gransden. These are the first records since 1980 when one was recorded in the Rothamsted trap that operated in Waresley village. During the late autumn of 2006 Charles Turner gave me a collection of moths from his garden trap in Great Gransden for identification. Amongst these was a Royal Mantle *Catarhoe cuculata* (Hufn.), which he had caught on 1 July 2006. The first Huntingdonshire record since 12 July 1968 when one was taken in Hemingford Abbots. Nick Greatorex-Davies found a colony of Fox Moths *Macrothylacia rubi* (L.) adjacent to the local Wildlife Trust reserve at Five Arches Pits on 23 May 2007. The first Huntingdonshire records since David Evans found one at Five Arches Pits on 8 June 1994. On 9 June 2007 Andrew Frost caught a Satin Wave *Idaea subsericeata* (Haw.) in his Folksworth trap. There are only two previous records of this species in the county, in 1969 and 1985, both from Rothamsted traps.

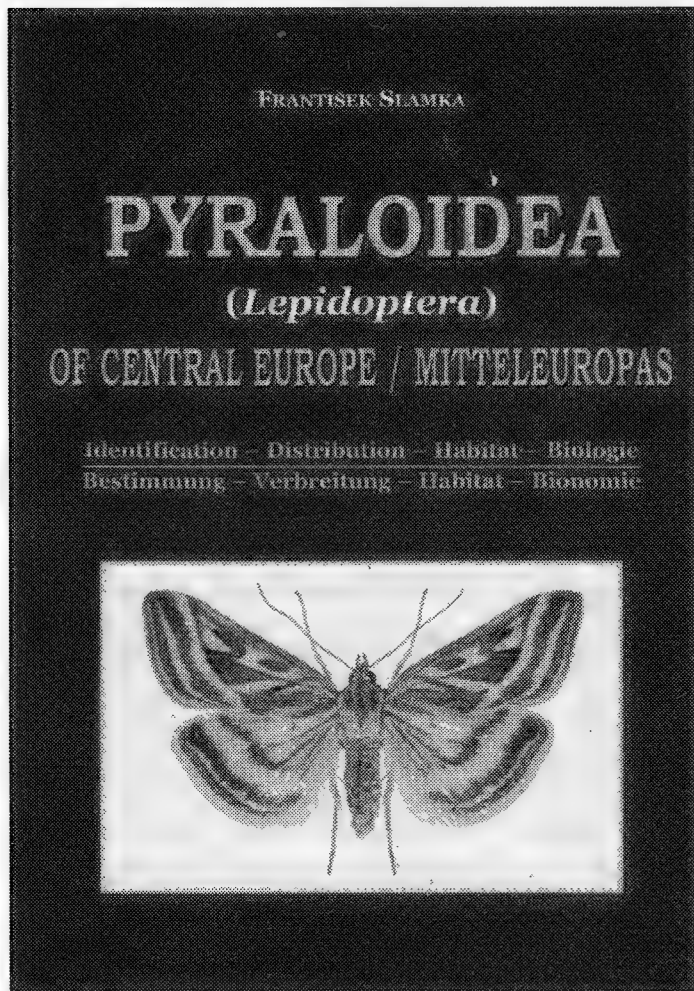
During a Huntingdonshire Moth and Butterfly Group moth recording event at Holme Fen National Nature Reserve on 1 July 2008 two Red-necked Footman *Atolmis rubricollis* (L.) arrived at the moth sheet. These are the first records since the publication of the *VCH*. A few days later, on 13 July, Philip Horsnail recorded another in his trap, which he operates near Holme village. Philip has since recorded the Red-necked Footman, in his trap, on 28 June 2009, 22 June 2010 and 8 July 2010.

A Scarlet Tiger *Callimorpha dominula* (L.) was found by Henry Arnold in his garden near Bury on the morning of 6 July 2010. This is the third Huntingdonshire record of this species. The previous records being published in the *VCH* and in Balding (1878. *Lepidoptera*. In: Miller, S.H. and Skertchly, S.B.J. (eds). *The Fenland Past and Present*, 401-412 & 591-633).

Two moths that, in Huntingdonshire, have been confined in the past to National Nature Reserves have started to expand their range. The Dotted Fan-foot *Macrochilo cribrumalis* (Hb.) came to my moth trapping sheet in a meadow west of Godmanchester on 30 May 2009. On 8 July 2010, David Griffiths recorded another at Earith. The Concolorous *Chortodes extrema* (Hb.) may be lost from Woodwalton Fen as it has not been found there since 1997. Several attempts during the last decade, have failed to record it on the Fen. However, it appears to have colonised areas in the north of Huntingdonshire where it has been found on nine occasions on three sites since 2006, as follows: 18 June 2006, Elton, Brian Stone; 25 June 2006, Yaxley, Andrew Frost; 15 June 2009, Yaxley, Andrew Frost; 16 June 2009, Elton, Brian Stone; 4 June 2010, Yaxley, Andrew Frost; 5 & 12 June and 11 July 2010 Orton Waterville, Jonathan Newman and 21 June 2010, Elton, Brian Stone. — BARRY DICKERSON, 27 Andrew Road, Eynesbury, St Neots, Cambridgeshire PE19 2QE (E-mail: barry@eynesbury27.freeserve.co.uk).

## BOOK REVIEWS

**Pyraloidea (Lepidoptera) of Central Europe/Mitteleuropas** by František Slamka. Slamka Publishing, 2010. 176 pp. including 12 pages of colour plates and 53 pages of genitalia drawings of both sexes. hardbound, 168 x 238 mm., ISBN: 978 80 969052 7 0. Available direct from Slamka, Račianska 61, SK-83102 Bratislava, Slovakia (<http://home.nextra.sk/fslamka>). €49 plus postage. Bilingual (English & German).



Those of us who want to 'do' pyralids have been a bit stuck for a while. Barry Goater's excellent work *British Pyralid Moths* (Harley Books) is now getting on for thirty years old and so does not include the really quite large number of additional species found in Britain since publication. It is also out of print and not at all likely ever to be reprinted, even though Harley Books has been bought by Apollo. Some species that affect Western Europe including Britain are illustrated in Patrice Leraut's 2003 *Le Guide Entomologique* (Delachaux & Niestlé, Switzerland), especially members of the Phycitinae, but the images are small, unclear and unaccompanied by any text. For several years now, most of us have been using František Slamka's *Die Zünslerartigen*

*Mitteleuropas* in either its original 1995 version or its 1997 reprint with the extra plate tucked in at the rear. In terms of general identification works that include all, or at least most, of the British Isles species, there is nothing else available. Higher up the scale, we have just one pyralid volume in the series *Microlepidoptera of Europe* (by Goater, Nuss & Spiedel, 2005, from Apollo Books) covering only the Acentropinae, Evergestinae, Heliothelinae, Schoenobiinae and Scopariinae), whilst Slamka himself has embarked upon a really rather splendid new series entitled *Pyraloidea of Europe* of which only the first two parts are currently available.

The work currently under review will therefore be very welcome to the large majority of British and European lepidopterists. It will especially appeal to those who cannot afford or cannot justify the expense of a series of volumes each specialising in just a few species. *Pyraloidea of Central Europe* is essentially a reworking of *Die Zünslerartigen Mitteleuropas*; however, it has rather more to offer than the original, which will render it an invaluable tool. The most obvious change is the insertion of English language text alongside the original German; the page divides into two columns to facilitate this and as a by-product of this necessity the text pages are much easier on the eye than in the original work. The plates have been redone. The extra species added to the rear of the 1997 work have been placed in



their correct position, a few extra species have been added and the whole lot re-numbered. There are 669 colour photographs in all. The background colour of the plates is now a very light grey rather than the original shade of blue and this makes the colours and markings of the moths themselves much, much easier to discern. The 940 genitalia drawings to my eye seem more crisp and clear than before; I had to measure some examples to convince myself that they were not presented at a larger size.

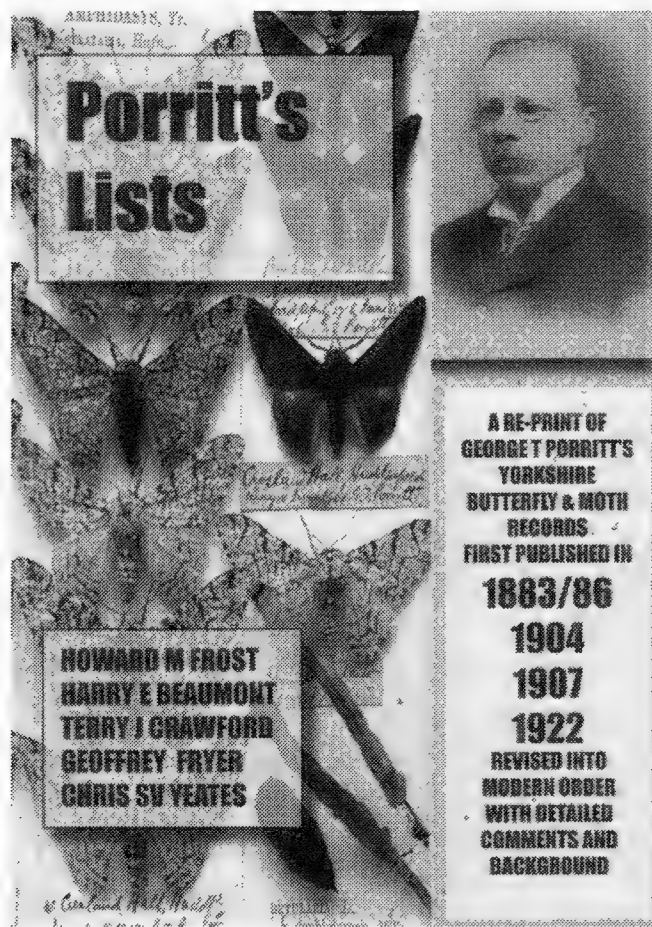
In total 403 species of Superfamily Pyraloidea known or recorded from Central Europe (Germany, Austria, Switzerland, Poland, Czech Republic, Slovakia and Hungary, Romania and Western Ukraine) are included. The entry for each species includes information on the geographical distribution and habitats of the moths, the ecology of the caterpillar and various other matters of general interest. A mere handful of species included on the British Isles list are absent from this new work; these are almost all species that affect North Africa, Spain and the Western seaboard of Europe and their absence is unlikely to impact most people's enjoyment of pyralid moths. Nomenclature and taxonomy seems to be fully up to date, though there may be a couple of contentious points that really are not worth raising here.

There are a few minor criticisms – the main one being that not every species has its genitalia drawn. The excuse, as always, is that the species omitted are obvious from wing pattern so that genitalia are not necessary. This is all very well and good if you are catching or rearing pristine specimens, but the modern trend towards recording distribution, rather than simply collecting pretty specimens, means that more and more people want to be able to identify the scale-less remains that are barely recognizable as pyrales from the bottoms of light traps! Mind you, if past experience is anything to go by British moth books don't even seem to acknowledge that genitalia exist, so I suppose we should be grateful! I commend this reviewed volume to anyone and everyone who is in the least bit interested in British Isles Crambidae and Pyralidae.

Colin W.Plant

**Porritt's Lists** edited by **H. M. Frost, H. E. Beaumont, T. J. Crawford, G. Fryer and C. S. V. Yeates**. Butterfly Conservation/Yorkshire Naturalists Union, 2011. 320 pp., numerous illustrations, many in colour. 148 x 210 mm, paperback, ISBN: 978 0 9562216 2 9.

George Taylor Porritt (1848 – 1927) was a Founder Member of the Yorkshire Naturalists Union and the first Yorkshire Lepidoptera Recorder. He published the first ever comprehensive listings of Yorkshire Lepidoptera between 1883 and 1867, following these with supplemental data in 1904 and other lists in 1907 and 1922. The work presents these lists in a modern format, using a updated taxonomic sequence and modernising the species names so they will be recognisable to present-day readers.



A review of the life and entomological deeds of Porritt features early in the pages and is a fascinating read – one has to bear in mind that things we regard as a matter of course these days were entirely new innovations in the late nineteenth century. It is a constant moan of mine that in placing on record the insects we often overlook the importance of creating a parallel data archive concerning the entomologists themselves. Perhaps this is more a social historical matter than a scientific one, but I see no reason why the two should not complement each other. The ‘meat’ of the work is, of course, the presentation of Porritt’s lists themselves. This is a fascinating historical reference and even though I do not really know Yorkshire all that well myself I can plainly see

how useful this tome will be to just about everyone concerned with that county’s moth fauna. What drew my eye especially was the splendidly colourful table giving a summary of the seasons; for each year from 1800 to 1904, the four seasons of winter, spring, summer and autumn are categorised from Very Hot to Very Cold, via a number of general stages (both seasons and parameters being defined). This strikes me as likely to be very helpful in interpreting changes within the moth fauna.

The whole work is essentially a review of the Yorkshire moth fauna – as it was at the end of the nineteenth century. No attempt has been made to compare with the present day, nor should there have been – that is a separate exercise that has now been made very much easier. It is to be hoped that this form of ‘rescue’ of historically important documents might be considered by other counties of our islands.

Colin W. Plant

**Extreme Insects** by **Richard Jones**. 288 pages, 286 x 257 mm, hardbound, ISBN 978-0-00-731077-7. Published by Collins, 2010. £30.

*Extreme Insects* joins *Extreme Nature* by Mark Carwardine and *Extreme Birds* by Dominic Couzens, in a series of books that form an important source of factual information on the groups covered. The format is simple: With minimal variation each open spread of two very large pages has a more or less full-page colour photograph depicting the species which warrants the title that heads the brief text on the opposite page. Thus, ‘Most Confusing Insect’ has a picture of the larva of a *Microdon* hoverfly, ‘Best Thermometer’ has the Snowy Tree-cricket *Oecanthus fultoni*, ‘Longest Head’ is awarded to the Giraffe-necked Weevil *Traceylophorus*

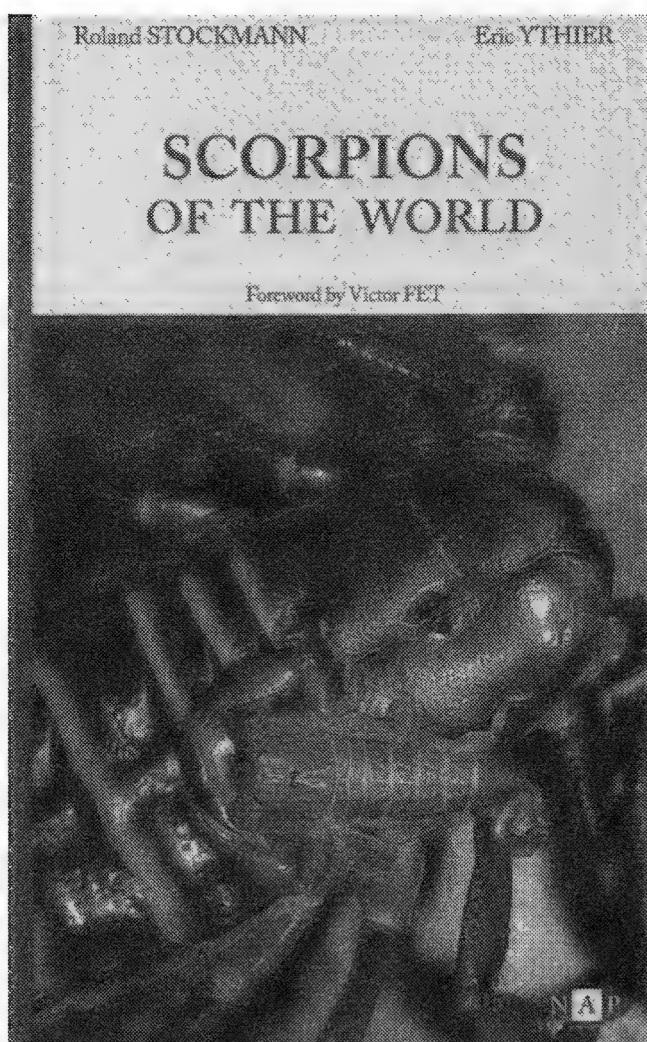


*giraffe* and so on. Having read the first few pages I decided that this would be a wonderful book for any child who has shown an interest (and perhaps some that have not?), but when I looked up again and realised I was on page 207 and still going strong it suddenly registered that unless I had regressed then this is also a book that will fascinate adults! I should declare an interest, in that the author is well-known to me as a friend, as indeed he is also well-known to most entomologists in the south-east and perhaps to Coleopterists over a wider area. Nevertheless, I have no hesitation in recommending this large but fascinating tome as a valuable source of information and

an absolute must-have resource for anyone who ever gives talks on insects.

Colin W. Plant

**Scorpions of the World** by Roland Stockman & Eric Ythier. 570 pp., 200 x 130 mm, hardbound, ISBN 978-2-913688-11-7. Published by N.A.P. Editions, 3 Chemin des Hautes Gravières, 91370 Verrières le Buisson, France. €75 plus postage.

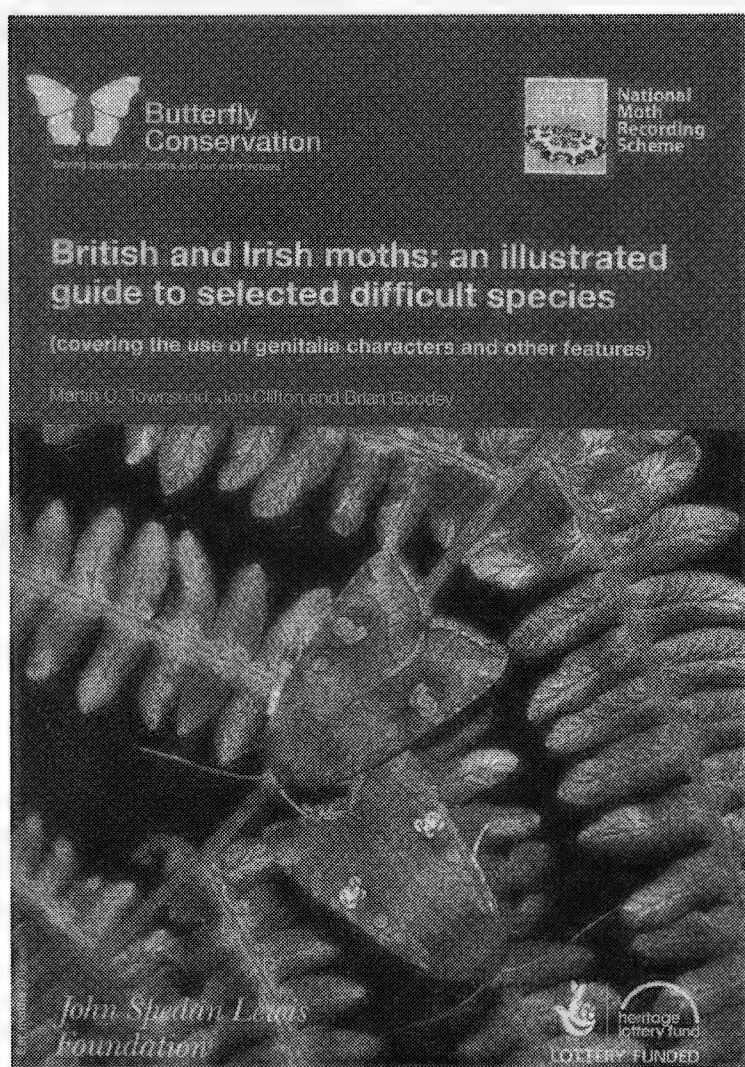


This latest work from NAP (Nature Art Planète) is in the same series as the two recently published volumes on *Moths of Europe* by Patrice Leraut, so the format will be familiar to most. Whether or not British readers will wish to buy a book on scorpions remains to be tested, though we do have one species living feral in Britain (for a summary see Plant, 2001). The European scorpion *Euscorpium flavicaudis* (Degeer, 1778) (*Scorpiones: Chactidae*) in Essex. *Essex Naturalist* (new series) **18**: 163-168). This book does, on the plus side, cover all known species so you would be unlikely to ever need another book on the subject. The extensive introductory chapters, which include identification, precede the species accounts; each species is illustrated in colour and provided with a distribution map. An outline



drawing of a scorpion in-filled with different colours provides an instant key to toxicity level (and I expect that most will, like me, immediately flip through the pages looking for the ones coloured red!). A fascinating read and an extremely important work of reference that is likely to be a definitive work on scorpions for many years to come.

**British and Irish moths: an illustrated guide to selected difficult species** (covering the use of genitalia characters and other features), by Martin C. Townsend, Jon Clifton and Brian Goodey. 91 pp., 1 figure and 137 colour photographic illustrations of genitalia. A4, spiral bound with clear, stiff plastic cover. Published by Butterfly Conservation. ISBN 978-0-9562216-6-7 . Price £20



The increasing popularity of both local and national recording schemes, and the ever-widening participation of amateur lepidopterists in these schemes has been a mixed blessing. The success of initiatives such as Moths Count and the Garden Moth Scheme has greatly increased our knowledge of the distribution and behaviour of our moth fauna, but has highlighted the problem of the identification of morphologically similar species. Verification of records of these species has always been a headache for those running such schemes, and has led to the irritating, if understandable, growth in the recording of “aggregates” of which the genera *Mesapamea* and *Epirrita* are examples. Such records add little to our knowledge of the individual species, so it

is very pleasing to welcome, on several levels, a publication devoted to the separation of selected difficult species. We now have an additional tool to assist in identification; we have clear evidence to convince others that critical examination and dissection of some species is actually necessary; and perhaps the cautionary bonus that the “gen.det.” will not always provide an unequivocal answer.

The opening pages set out which of the 72 species of larger moth are covered in the guide. After a Preface and Acknowledgements, the Introduction sets out the aims of the guide, including a somewhat ambitious statement “*to inform novice recorders, thereby reducing erroneous records*”. Hints on how to use the guide are followed by the main introductory chapter on Dissection Methods, where the reader is treated to a step-by-step methodology for preparing, dissecting, mounting and examining genitalia. There are large, clear photographic illustrations of male and female genitalia labelled with the names of the various structures, and an extensive glossary

of terms. The bulk of the guide is devoted to the identification of difficult species. Groups of similar species are treated together. For each group, with the exception of *Zygaena*, there is a list of related species, together with their Bradley & Fletcher and European Checklist numbers, English and Scientific names and status. Comments are made on diagnostic external characters, although the reader would also need an illustrated identification guide to make sense of some of the comments. There are keys to the diagnostic morphological characters of male and female genitalia (where there are more than two species in the group), or simple statements if only dealing with a species pair. The male and female genitalia are then illustrated, with useful pointers to significant features. Other comments, such as taxonomic uncertainties and related European species are made where necessary. The guide concludes with a list of the references cited.

The information is clearly laid out, and the spiral binding ensures the guide opens flat when in use. The genitalia preparations illustrated are of exceptional quality, and would be a worthy model for all Lepidoptera publications figuring these structures. One senses that the authors are aware that they cannot expect to please every reader, and it is easy to find fault on points of detail or the wider aspects of the scope of the work. A major omission is the genus *Eupithecia*, justified on the grounds of the recent publication of *British and Irish Pug Moths* by Riley and Prior. Whilst the Pug book is masterly in its treatment of this difficult genus, the genitalia are illustrated by line drawings which never give the best "feel" for what a structure really looks like. One cannot help thinking that *Eupithecia* genitalia, particularly of the quality shown in this guide, would be a superb complement to Riley & Prior. Closely related European species that might find their way to these shores are mentioned in passing, but not illustrated. As to the selection of the 72 species, one can only have sympathy with the authors in actually having to make a choice, and it would be churlish to criticise their selection. The section on dissection methods is well written and provides sound and sensible advice on materials and methodology. The phrase "... *must be practised on expendable specimens* ..." is particularly apposite in the context of everting the male vesica! Some small details are missing, such as the diluting vehicle for Chlorazol Black (aqueous or 70% alcohol?) and the mention of other stains such as Mercurochrome or even Eosin. For the beginner, some tips on how to differentiate ventral and dorsal surfaces of the female genitalia would have been useful. Although not mentioned, it is implicit from the guide that the abdomen should be discarded during dissection. Whilst abdominal characteristics may be unnecessary for the species under review, there appears to be an increasing interest in structures associated with the abdomen, and some, for example in the genus *Nola*, may be diagnostic. The fact that a clean abdomen can also be mounted on a slide with the genitalia might have merited a mention. Photography of genitalia preparations is mentioned frequently, but little advice is proffered on how this might be achieved. This is probably beyond the legitimate scope of the guide, but some further reference might have been useful for the beginner. There is a small but useful section on the examination of genitalia *in situ* and it would have been helpful to mention, in passing, that this technique is also suitable for examining the abdominal plate in the male *Eupithecia*.

Excellent though the genitalia figures are, they are devoid of any reference data such as locality, date of capture and current location of the specimen and slide which, on purely scientific grounds, does reduce their value.

Providing a glossary of terms is essential, and the authors rightly caution the reader on the plethora of terms scattered throughout the literature. However, it is not unreasonable for the newly emboldened dissector to try his or her hand at other macrolepidoptera, and what better source of reference than the copiously illustrated *Noctuidae Europaeae*? Within a minute of consulting these volumes, the reviewer encountered terms such as scaphium, sub-scaphium, pleurite, spinule, phallas and fundus bursae, none of which were readily identifiable from the glossary. The glossary does, of course, provide all the necessary definitions for the guide and does fit helpfully on two pages, but perhaps a missed opportunity to define more fully the currently used range of terms for genitalia?

The species group treatments are excellent. All follow the same pattern except for *Zygaena*, where no reliable differences in genitalia have been found. Differences in external morphology and ecological preferences are tabulated for *Z.trifolii decreta*, *Z.trifolii palustrella* and *Z.lonicerae latomarginata*. Given the regular confusion that arises in recording the Five-spot Burnet and the Narrow-bordered Five-spot Burnet, this approach is very helpful, and seems to work. The only small omission relates to the longer hairs on the larvae of *lonicerae* which, in the absence of the larva itself, can be seen on the shed skin inside the cocoon after the moth has emerged.

Leafing through the guide, page 43 is disconcertingly blank, with no indication that this was intentionally (as I understand it, a decision by the designers rather than the authors). This enigmatic page is opposite the discussion on the species pair *Ectropis bistortata/crepuscularia*. Unsurprisingly, the authors could find no reliable characters to separate these two taxa, but discuss the various theories that this pair is in fact a single species (but which?) or two species in the early stages of divergence, and defer further conclusions until DNA analysis has been undertaken.

It is very easy to find fault with almost any publication and for many, making a critical comment may seem a waste of effort. However, the approach, layout and style of this guide are, in many ways, groundbreaking and worthy of detailed examination. It is an excellent and much needed book with a standard of illustration that others should emulate. As important as the identification criteria is the realisation that genitalia preparations do demand a degree of expertise, that artefacts can develop if procedures are sloppy and that layout and orientation of preparations is important to be able to see the relevant features. It also confirms that genitalia examination, on its own, is not always the holy grail of identification, but one component in a range of characters that should be examined in critical species. The publication was funded by the John Spedan Lewis Foundation and indirectly by the range of organisations that support Butterfly Conservation. We hope that the success of this publication will encourage the funding of further guides, perhaps with the Pyralidae as the next target, followed by the various microlepidoptera groups.

Paul Sokoloff



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# THE ENTOMOLOGIST'S RECORD

## AND JOURNAL OF VARIATION

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***Stathmopoda pedella* (L.) (Lep.: Stathmopodidae): new to East Gloucestershire (VC 33)**

Coln Park is a 650 acre estate near Lechlade in Gloucestershire (O. S. grid reference SU 19), with a variety of different wetland habitats set around six large lakes and incorporating a development of holiday homes. Moth recording commenced there in 2009, with only casual observations being made until the purchase of a 125-watt 'Robinson' trap. This was first put into action on the evening of 4 June 2010, and run on 23 nights between 5 June and 23 September. Approximately 1800 specimens of around 260 species have been caught, including the first of the distinctive microlepidopteran *Stathmopoda pedella* for Vice County 33 (East Gloucestershire). This flamboyant little moth was first observed in the trap on 10 July 2010 (two specimens), followed by further records on 11 July (2) & 12 (3), and on 12 August (2) & 17 (2), which suggests that there is a resident breeding population on the estate. These records are interesting for a number of reasons, in addition to their local novelty, as they have stimulated considerations of this species' phenology, life history, actual or potential host plants, habitat type and management and conservation. Observations on the frequency of moth recording at Coln Park in 2010 also bear relevance to this.

This species' UK distribution is reported as affecting England south-east of a line from Somerset to Norfolk, with outlying populations in Lincolnshire, south Yorkshire and Cumbria (Emmet & Langmaid, (eds.). 2002. *The Moths and Butterflies of Great Britain and Ireland* 4 1. Harley Books). The upper limit of that line does appear to be shifting northwards, with later records from Monmouthshire VC 35), West Gloucestershire (VC 34) and now East Gloucestershire (VC 33). It might perhaps appear in Glamorganshire (VC 41), Northamptonshire (VC 32) and South Lincolnshire (VC 53) in the near future and may be worth looking out for there.

Emmet & Langmaid (*op. cit.*) give the UK flight time of the adult as July, although one of the only two known VC34 records, made in 1999, is from late June. Early August records have also been recorded (John Langmaid, *pers. comm.* 2010), but the records reported here from mid-August appear to be the first time this species has been recorded in the UK so late in the year. The Coln Park trapping was not, for a number of reasons, able to be carried out during the following periods: 23 June – 9 July, 12 July – 11 August, and 18 – 31 August. These gaps in the recording also coincidentally represent the potential beginning, middle and end of the recorded local flight season. It is therefore not clear when the earliest or latest adults were flying or what sort of numbers might have been present during these time periods. More regular trapping is intended for June to September 2011 and beyond, to help better understand the flight season's duration at Coln Park. It is therefore suggested that the moth is considered as a univoltine species in the UK and its flight season recognised as being from late June to mid August, with numbers peaking in July.

The ovum and pupa appear to remain undescribed (Emmet & Langmaid, 2002). The known host plants are the UK native species Common Alder *Alnus glutinosa* and the introduced species Grey Alder *Alnus incana*. Both have been planted in abundance in blocks at Coln Park between the late 1980s and 1996 as part of the restoration programme after gravel extraction. The exotic Italian Alder *Alnus cordata* was also planted in abundance as a pioneer nurse crop species in much of these woodland areas and some specimens are quite mature, now reaching up to *c.* 15 metres high, with very productive fruit crop. It is postulated here that perhaps *Stathmopoda pedella* might also feed on Italian Alder, and so further research is needed to test this hypothesis, and to investigate the relative abundance of larvae across the three species of Alder.

Discovery of this extremely local moth means that the landscape and ecology management plans and actions for Coln Park are now being reconsidered, and the author proposes to retain as much alder habitat as practicable. Common Alder has colonised naturally around the margins of the various lakes created by the quarrying works, which combined with 10 hectares of plantation blocks containing *c.* 20% alder habitat, provides an estimate of about three hectares of potentially suitable habitat on the estate. Emmet & Langmaid state that this moth is 'often restricted to two or three trees where alders are present'. If this is the case then the implications for habitat management are worth considering carefully. A proportion of the plantation blocks are to include holiday home construction, whereas other blocks are solely to be nurtured towards becoming mature and ecologically diverse woodlands without any built development. For the latter, this involves gradually removing non-native tree species in winter, such as Corsican Pine *Pinus nigra* ssp. *laricio*, Norway Maple *Acer platanoides*, Sycamore *A. pseudoplatanus*, European Larch *Larix decidua* and Italian Alder. This will allow more light into the understorey and encourage the native plant species present, such as Ash *Fraxinus excelsior*, Cherry *Prunus padus*, Silver Birch *Betula pendula*, White Willow *Salix alba* and, of course, Common Alder. Until more is known about the possible use of Italian Alder as the moth's foodplant, no additional Italian Alder will be removed from these areas. For the construction zone blocks, there is a requirement for clearing of almost all trees in certain areas of the plantation. Where wholesale clearances are required it is often not possible to retain trees that lie within the construction footprint, but occasionally it is practicable to retain one or more trees, so alder specimens will in future be retained wherever possible. As part of the standard landscaping around new homes 126 Common Alder specimen trees have already been planted, with many of these now reaching seven to eight metres in height and producing abundant cone crops, which will hopefully provide suitable habitat and food supply for this moth species. Results of future surveys will also perhaps be usable in the design of more specific conservation management actions for *Stathmopoda pedella* — BENEDICT JOHN POLLARD, Landscape and Ecology Manager, Coln Park, Lechlade, Gloucestershire GL7 3DT (E-mail: benedict.pollard@gmail.com).



### ***Phtheochroa schreibersiana* (Frölich) (Lep.: Tortricidae) re-found in Britain in Buckinghamshire**

A Buckinghamshire Invertebrate Group (BIG) meeting at Turville Heath (O. S. grid reference SU 7491) on 5 June 2010 produced some very interesting records. Already published in the pages of this journal (*Ent. Rec.* 122: 146-147) is a report of *Cydia pactolana*, believed to be the seventh British record. An additional moth of note was also trapped at my light that same evening; this was *Phtheochroa schreibersiana* and undoubtedly provides the first Buckinghamshire record for this moth (Plate 15). A search of the annual Microlepidoptera Reviews by John Langmaid and Mark Young, with the latest being found in this journal, produces no record of it being recorded anywhere in Britain. When an image of the adult was mailed to John Lagmaid, he was very surprised and commented 'I can't think of a specimen of this species within living memory ... it really is a remarkable find'. This Buckinghamshire moth was found in a fairly damp area of scrub invaded heath on chalk geology.

The larval food plants are given as *Ulmus* [Elm], *Populus nigra* [Black Poplar] and *Prunus padus* [Bird Cherry] in Bradley, Tremewan & Smith, (1973. *British Tortricoid Moths. Volume 1*. Ray Society) and the moth is supposedly most often encountered in fenland areas. Emmet (1979. *Field Guide to Smaller British Lepidoptera*. BENHS) repeat the same (*Ulmus*, *Populus nigra* or *Prunus padus*) and Razowski (2002. *Tortricidae of Europe Volume 1; Totricinae and Chlidanotinae*. Slamka) records *Ulmus campestris*, *Padus* and *Populus*.

Its flight period is May and June and it is said to sit high up in the trees except after its emergence, but it has been taken lower down after rain (Emmet, *op.cit.*). The larvae hatch towards the end of June, spinning young leaves together until around late summer whereby they can be found on leaves and stalks. In Autumn they make a cocoon under the bark where they hibernate as larvae. They can be found in aphid galls (Razowski, *op. cit.*).

Past records for the UK are rather sparse. Bradley et al (*op. cit.*) describe it as very local and apparently much scarcer than formerly [writing in 1973] citing records for Cambridgeshire, Hunts, Suffolk, Kent, Surrey and Gloucester. Enquiries of the Natural History Museum in London indicates that they have quite a long series of *schreibersiana* in the collections from UK locations. Most of the specimens are from the late 1800s and data are fairly minimal, but locations include Ely, Cambridge, Wicken Fen, Iwade and Chippenham. Chippenham presumably refers to Chippenham Fen? The most recent specimens would appear to be a long series collected by W. G. Sheldon from Wicken Fen in May 1920 (Kevin Tuck pers. comm.). It seems opportune to undertake a short review of British records:

#### **Huntingdonshire**

There is mention of a record a few kilometres south of Peterborough in 1855, on the Huntingdon Moth and Butterfly Group website ([www.hmbg.org/index.php?pageid=138&bf=0922&nojs=1](http://www.hmbg.org/index.php?pageid=138&bf=0922&nojs=1)).

### West Suffolk

There is an old record on the Suffolk Moth Group website from Icklingham about 1870 by the Revd. A. H. Wratishaw ([www.suffolkmothgroup.org.uk/cgi-bin/mos/account.cgi?code=0922](http://www.suffolkmothgroup.org.uk/cgi-bin/mos/account.cgi?code=0922)).

### Cambridgeshire

Most records are from Wicken Fen and area. Most of these are on the UK National Biodiversity Network (<http://data.nbn.org.uk/speciesInfo/speciesSiteTypeList.jsp?allDs=1&useIntersects=1&spKey=NBNSYS0100004589>). The earliest is by J. C. F. Fryer in 1876, then another by F. Bond in 1878 and W.G. Sheldon recorded the moth in 1920. These last two records appear in *Proc. Brit. Ent. Nat. Hist. Soc.*, 1972 p50 and p70, where the comment is, 'There is more hope for *Hysterosia schreibersiana* (Fröl.). Records for it have been erratic and it was last taken by W. G. Sheldon in the lane leading to the fen in 1920. This is a tree-top species which needs a downpour of rain to bring it to human level, and it is seldom that a microlepidopterist, a deluge and *schreibersiana* synchronise their appearances.' In addition it states that 'Mr. Bond took about a dozen specimens at Wicken; the lane to Wicken Fen, 1876, plentiful in the lane to Wicken Fen, 1920.' Specimens in the Natural History Museum include a series from Sheldon, but in addition include a number from Ely, Cambridge and Wicken Fen between the years of 1883 to 1886 where a total of 26 specimens can be found (Collectors were Archer, Gill, Stevens and Purdey).

Robert S. Smith (1909. *Entomologist XLII*: 185), states that 'on June 3rd last [1908] I went into Cambridgeshire to look for some *A. schreibersiana*, but it was a very cold day, wind north-east, and I did not expect to do much good. After examining a great many trunks of elm, I was successful in taking two specimens, and was about to return home, when I came to a small whitethorn bush, which I beat for larvae. To my great surprise and pleasure I found three *A. schreibersiana* at the first beating, and was successful in taking eighteen in all. The cold had evidently driven them into the bush for shelter. I think this is a record catch of this rare and pretty little Tortrix for one day.'

In addition there is a specimen in the Natural History Museum from Chippenham [Fen] dated June 1904 by A. B. Farn and H. C. Huggins.

### East Kent

The Butterfly Conservation (Kent Branch) website, shows *Phtheochroa schreibersiana* to have been last recorded in VC 15 in the year 1923 ([www.kentbutterflies.org/kentmoths/downloads/pdfs/checklists/kentlepiv1.pdf](http://www.kentbutterflies.org/kentmoths/downloads/pdfs/checklists/kentlepiv1.pdf)). This record relates to a specimen in the Natural History Museum dated 13 June 1923 by H. C. Huggins, taken at Iwade.

### Surrey

Jim Porter remarks that this species is 'unmentioned in the *VCH* and not noted from Surrey in Meyrick (1928). The only known Surrey claim is from Haslemere



**Plate 15.** *Phtheochroa schreibersiana* (Frölich 1828), Turville Heath, Buckinghamshire, 5 June 2010 (Photo: ©Peter Hall)

(Bradley, *et al.* op. cit.) but I am unable to locate any specimen or literature source to support this statement’.

### Gloucestershire

There is one Gloucester record, although the *Proceedings of the Cotteswold Club*, are slightly confusing. It is stated ‘496/3 *Phtheochroa schreibersiana*, Froelich. ‘*Argyrolepis schreberiana*’, (sic) Clutterbuck, *Proc. Cots. F.C.*, XX, 237 (1920) without locality or date. Symond’s Yat, 23.vi.10. C.’ Additional information is given by C. Granville Clutterbuck (1911. *Entomologist XLIV*: 69) who states ‘I am pleased to be able to record the capture of this very local tortrix in the Forest of Dean on June 23rd, 1910. I netted two specimens flying in the afternoon sunshine about four o’clock amongst some elm trees growing near water. Both were rather worn, and therefore I did not realize what a prize I had at first, but upon submitting one of the moths to Mr. Edward Meyrick, F.E.S., he at once referred it to this species’.

### Somerset

A record from the Quantocks in May 1997 is given on the Somerset Moth Group website ([www.somersetmothgroup.org.uk/portal/p/Distribution/s/Phtheochroa+schreibersiana](http://www.somersetmothgroup.org.uk/portal/p/Distribution/s/Phtheochroa+schreibersiana)). However, this record is unconfirmed and should be regarded as a data entry error (John Bebbington pers comm).

Thus, it seems that the present record from Buckinghamshire may be the first British Isles record for 87 years. Another BIG meeting has already been arranged for a similar time in 2011 to see if it can be found again – along with *Cydia pactolana* of course.



## Europe

There seem to be relatively few records of the moth in Europe, although it seems fairly widespread. The Fauna Europaea website ([www.faunaeur.org/full\\_results.php?id=439474](http://www.faunaeur.org/full_results.php?id=439474)) shows that it affects all of Western Europe apart from Portugal, Ireland and Iceland. It is shown as present in Sweden, Finland, the Baltic States and southwards across Poland, Slovakia, Hungary and Romania then, oddly, in Southern Russia. In Sweden it is classified as endangered ([www.lepidoptera.se/species/phtheochroa\\_schreibersiana.aspx](http://www.lepidoptera.se/species/phtheochroa_schreibersiana.aspx)). The European Environment Agency website (<http://eunis.eea.europa.eu/species/304664/countries>) has a similar distribution map, but adds Greece and both central and northern Russia. Other websites show rather fewer records and are evidently incomplete. Discover Life ([www.discoverlife.org/mp/20q?search=Phtheochroa+schreibersiana](http://www.discoverlife.org/mp/20q?search=Phtheochroa+schreibersiana)), for example, shows only the UK, Latvia, Romania, Central Southern France and in the Alps on the Italian-Austrian border area, overlooking, purely as an example, the record from Hungary in Szabóky, Kun & Buschmann, (2002. *Checklist of the Fauna of Hungary. Volume 2: Microlepidoptera*. Hungarian Natural History Museum).

Thanks to the following for their help and input: Kevin Tuck for information from the collection in the British Museum (Natural History) in London, John Bebbington, Graham Collins, Roger Gaunt, John Langmaid, James McGill and Jim Porter.— PETER R. HALL, Melanthia, Chiltern Road, Ballinger Common, Bucks HP16 9LH.

## Clay Triple-lines *Cyclophora linearia* (Hb.) (Lep.: Geometridae) in Ireland

A single female specimen of *Cyclophora linearia* was taken in my garden in Lucan, Co. Dublin, at mercury vapour light, on 5 June 2010. Baynes (1964. *A Revised Catalogue of Irish Macrolepidoptera*. Clasesey) described this species as rare and local in Ireland and gave records from Glengarriff, Co. Cork and Rathdrum, Co. Wicklow. More recently (Thompson and Nelson, 2006. *The Butterflies and Moths of Northern Ireland*. National Museums Northern Ireland), it has been recorded from Dromore Wood, Co. Clare and Newbridge, Co. Kildare. Unfortunately, Hill, Randle, Fox & Parsons (2010. *Provisional Atlas of the UK's Larger Moths*. Butterfly Conservation) do not include data from the Irish Republic. However, they do show that this species is known from only seven of the ten-kilometre map squares affecting Northern Ireland – a fact that tends to support the supposition that this is a rare moth in Ireland as a whole.— MARK JEFFARES, 28 Willsbrook Drive, Lucan, Co. Dublin, Ireland.

## A REVIEW OF *ACLERIS UMBRANA* (HB.) (LEP.: TORTRICIDAE) IN GREAT BRITAIN SINCE 1900

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### Abstract

*Acleris umbrana* (Hübner, 1799) has been found in Great Britain only in England. Records are given from 1900 to 2009, as well as those from the Channel Islands, and its current status is considered. Published larval foodplants are reviewed and it is noted that the only species on which larvae have been found in England and the Channel Islands is Blackthorn *Prunus spinosa*, which is apparently not given in mainland European literature. An account is provided of the biology.

**Key words:** Lepidoptera, Tortricidae, *Acleris umbrana*, English records, Channel Islands, *Prunus spinosa*, biology.

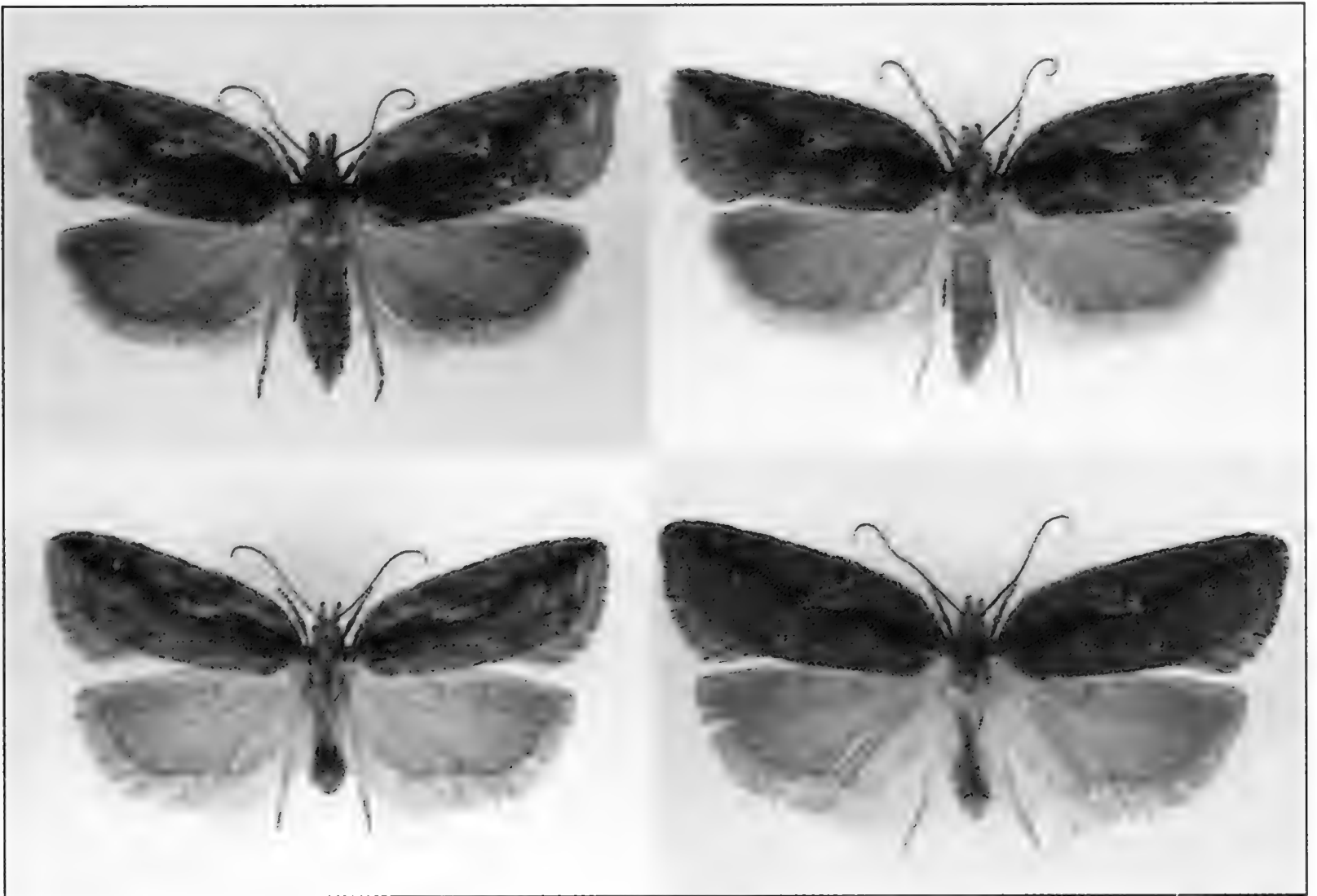
### Introduction

This review was prompted by the comment by Clancy (2008) in his paper on the immigration of Lepidoptera to the British Isles in 2006 that the two records given there of *Acleris umbrana* are coastal/extralimital records of possible immigrant examples. These records are from Donderry, East Cornwall (VC 2) on 18 January and Brede, East Sussex (VC 14) on 17 October 2006. Donderry is on the coast and Brede is just under 10 kilometres inland. In considering whether one or both of these might have been immigrants or from hitherto unknown resident populations my interest widened and resulted in an attempt to bring together such records as I could find from 1900 to 2009 and also to review the larval foodplants cited in the British literature. This in turn seemed to show that the only confirmed British foodplant is Blackthorn *Prunus spinosa*.

It appears that the first coastal, as well as the first larval, record in the British Isles was at Heybrook Bay, South Devon (VC 3) in 1992 (Heckford, 1993). Several previously unpublished records from coastal localities in East Cornwall and South Devon are given later in this paper. At Heybrook Bay larvae were in spun leaves of Blackthorn, a foodplant not given in earlier British literature, although as will be seen from some of the records given below the moth has often been associated with this. Indeed, as long ago as 1859 Wilkinson (1859) stated that the species was far from common and that it occurred 'chiefly among Blackthorn, on which the larva most probably feeds.'

### Overview of records

The question raised by Clancy's comment is whether records from the coast or not too far inland result from immigration, local dispersal or are simply overlooked populations in habitats not previously investigated for the species.



**Plate 16.** *Acleris umbrana*, all reared from *Prunus spinosa*, South Devon.

Photographs © Miss S. D. Beavan



**Plate 17.** Larva of *Acleris umbrana*.

Photograph © R. J. Heckford



In order to consider this I set out all the records that I can trace from 1900 until the end of 2009. The date of 1900 is purely arbitrary. I am very conscious that it is quite likely that there are published records that I have not found as well as unpublished ones of which I am unaware. I have consulted the following journals: *Atropos* (1996 to 2010); *The Entomologist* (1900 to 1973, when it ceased publication – it was re-launched in 1988 by The Royal Entomological Society of London with different aims but publication ceased in 1997 and I have not consulted those years); *Entomologist's Gazette* (1950 to 2010); *The Entomologist's Monthly Magazine* (1900 to 1978 - after 1961 there were very few records of Lepidoptera and I have not consulted the years after 1978); *The Entomologist's Record and Journal of Variation* (1900 to 2010); *Proceedings and Transactions of the South London Entomological and Natural History Society* (1922 to 1967); *Proceedings and Transactions of the British Entomological and Natural History Society* (1968 to 1987); *British Journal of Entomology and Natural History* (1988 to 2010). Various county lists have been searched and several people (acknowledged at the end of this paper) have provided me with data. Names of those whose records are given in the next section are in brackets and not italicised.

Data has also been included from specimens that I have examined at the Natural History Museum (BMNH), London, in the J. W. Metcalfe and G. B. Coney collections (J. W. Metcalfe Coll. and G. B. Coney Coll.) at Bristol's City Museum & Art Gallery (BCMAG) and in the J. M. Jaques collection (J. M. Jaques Coll.) at Overbecks (Overbecks), Sharpitor, Devon, a National Trust property. Names of collectors given in the next section are in brackets and italicised.

Within Great Britain the species has only been found in England. It is unknown in Ireland. It is notable that there are no records from Scotland even though the species occurs in more northern European countries, such as Sweden and Norway; in the latter it has been reared from larvae found in July on Rowan *Sorbus aucuparia* and Sallow *Salix* sp. (Berggren, Svendsen & Aarvik, 1980). It has been known from the Channel Islands since 1971.

It appears that since at least 1900 the only record east of Hampshire is the one from Brede, East Sussex and the only one north of Herefordshire is from Gait Barrows, West Lancashire (VC 60) in 2009. A 1934 record from Westmorland and North Lancashire (VC 69) was published in 1935 but was subsequently shown to be *Acleris hastiana* (Linnaeus, 1758), and is discussed later.

Historically, two of the best known areas for the species had been the New Forest, South Hampshire (VC 11), and Whittlebury Forest, Nottinghamshire (VC 56), but just over 100 years ago Barrett (1905) commented that it appeared to have been more frequent formerly and that it had been found 'in some numbers in the New Forest and Whittlebury Forest, from which places recent records are rare.' He states that it has occurred, generally rarely, in Surrey, Sussex, Hampshire, Dorset, Essex, Northamptonshire and Herefordshire.

Sheldon (1930) described it as a 'rather mysterious species, always very local, never common, and entirely disappearing in its known haunts for years at a time. I do not know that a single example was taken in the early years of this century; for the last three or four years, however, a very few examples have turned up in the New Forest, and also in Somerset.'

The position appeared little different nearly 30 years later when Huggins (1957) wrote that the species 'does not seem to be taken often today, but probably only wants looking for. I know one place in the New Forest where one or two could usually be taken before the war, and Hayward got a few near Crewkerne in Somerset in the early 'thirties.' As will be seen from the records listed later in this paper, A. R. Hayward recorded the species from Somerset in 1926, 1933, 1934 and 1935. The first of these is almost certainly from Haselbury Plucknett which is a few kilometres to the east of Crewkerne. Hayward lived at Misterton, Somerset which is about a kilometre south-east of Crewkerne.

Bradley, Tremewan & Smith (1973) state that it is a local species, apparently never very common and sometimes not observed in its known haunts for periods of several years. They list the following counties from which it has been recorded: Essex, Sussex, Hampshire, Dorset, Somerset, Oxfordshire, Northamptonshire, Westmorland and Northumberland.

The general comments set out above are reflected in the records detailed for the period from 1900 until 1972, the year before Bradley, Tremewan & Smith's publication. As will be seen, for the period from 1973 to 2009 there are records from only 19 localities, comprising 27 adults and over 40 larvae, and in addition at least 20 adults and one larva from the Channel Islands. Except for East Sussex, these have all been from eight vice-counties in the west and north-west of England: West Lancashire, Herefordshire, Gloucestershire, Dorset, North Somerset, South Somerset, South Devon and East Cornwall.

Because *Acleris umbrana* is a rather variable species, four moths are illustrated on Plate 16.

### Records between 1900 and 2009

Records given below are of adults unless stated otherwise. Localities are cited exactly as they are given on the data labels of specimens in the BMNH and BCMAG and at Overbecks, or as specified by those who have supplied the records. Some of the literature uses the generic name *Peronea* for what is now *Acleris*. In this paper the generic name *Acleris* is given when citing information from such sources, except where parts of two papers by Wright (1935a and 1935b) have been quoted.

Localities that are either coastal or within 10 kilometres of the coast are indicated by an asterisk (\*) before the year of the record.

#### England

**Up to 1900.** Bright (1900) gives '*Whitley Wood* in the *N. F.* [New Forest], but seems to be rare'.

**Up to 1902.** Thurnall (1902) records that 'Mr. Machin and others used to get it very sparingly in Epping Forest [South Essex VC 18], but I have spent many hours in many seasons searching in vain for it.'

**Up to 1905**

Goss & Fletcher (1905) give 'Lewes [East Sussex VC 14], very rare' with no other data. This comment is presumably taken from Weston (1879) who states in his account of the Tortricidae of Sussex, Surrey and Kent that this 'is another insect that we appear to have lost sight of lately. It appears confined to Surrey and Sussex, the localities given being Sanderstead and Mickleham [both Surrey VC 17], and a single specimen recorded by Mr Verrall from the neighbourhood of Lewes. The moth should be looked for in September and October, and occurs chiefly among blackthorn and whitethorn.'

**1926.** 20 September, one, 'Somerset/H. P.' (*A. R. Hayward*) (BMNH). This is presumably the specimen recorded by Hayward (1927) as having been taken on that date 'in the neighbourhood of Misterton', South Somerset (VC 5). 'H. P.' almost certainly stands for Haselbury Plucknett, not only because it is a few kilometres to the north-east of Misterton but also because in his account of the Lepidoptera of Somerset Turner (1955) gives this as the locality for Hayward's 1926 record. This appears to be the first record from Somerset.

Only the year given, three, 'New Forest' (captor unstated but probably J. W. Metcalfe) (J. W. Metcalfe Coll., BCMAG). The handwriting on the three data labels is similar to that on other data labels in that collection with the same locality and bearing the initials 'J. W. M.'

**1927.** September, no exact date given, one, 'New Forest' (captor unstated but probably J. W. Metcalfe) (J. W. Metcalfe Coll., BCMAG). The handwriting is similar to that on the data labels of the three taken in the New Forest in 1926.

**1928.** 16 September, one at an unspecified locality in Dorset (VC 9) which appears to have been near where the specimen was taken on 20 September 1926 in South Somerset because 'Like the specimen taken two years ago in the same district, but just over the Somersetshire border, this was beaten out of dense cover in the heart of a blackthorn thicket' (Hayward, 1929).

**1929.** 14 September, one, 'Dorset H.' (*A. R. Hayward*) (BMNH); 18 September, one, 'W. Dorset' (*H. C. Hayward*) (BMNH); 29 September, one, 'New Forest', South Hampshire (*W. Fassnidge*) (BMNH); 7 October, one, 'New Forest, Hants' (*W. Rait-Smith*) (BMNH); October, no exact date given, one, 'New Forest' (*W. Fassnidge*) (BMNH); Fassnidge (1929) gives 'N. F., [New Forest] Whitley Wood, r., [rare] V. [Victoria County History]; N. F., v.r. [very rare] three specimens in 1929, W. F. [Fassnidge]; Brockenhurst, H. C. H. [Huggins]; four recent specimens, J. W. M. [Metcalfe].' All these localities are in South Hampshire.

**1930.** 10 October, one, 'Holts' (captor unstated) (G. B. Coney Coll., BCMAG). The Ordnance Survey Gazetteer of Great Britain published in 1987 gives all place names from the 1: 50 000 Landranger Map Series. If 'Holts' is not an abbreviation, then there are two places listed with this name, one in North Essex (VC 19) at TL9431 and the other in South Lancashire (VC 59) at SD9503. This publication also gives a Holts Down in North Somerset (VC 6) at ST7769, a Holt's Farm in North Essex at TL6626, and two places called Holts Farm, one in North Essex at TL7512 and another in Oxfordshire at SP5517. Accordingly, I have not been able to trace in which vice-county 'Holts' is; 18 and 22 October, one on each date, 'New Forest, Hants' (*W. Rait-Smith*) (BMNH).

**1932.** 25 September, one, 'New Forest' (*W. Fassnidge*) (BMNH).



**1933.** 16 September, two and 4 October six at Woodfidley, South Hampshire, recorded in Fassnidge's diary (Goater, 1974). There are three Fassnidge specimens in the BMNH taken in 1933, two of whose data labels each have the date as 16 September 1933 and the locality as 'New Forest' and the third has the same locality with the date given as 6 October 1933.

In a note published on 16 December 1933, and presumably based on his visits to Woodfidley that autumn, Fassnidge (1933) comments that the habits of what he called this decidedly rare species seem to be almost unknown and sets out his experience of it in the New Forest. He states that for several years he had taken one or two specimens when beating in Blackthorn thickets for *Acleris cristana* ([Denis & Schiffermüller], 1775) but it was not until 1933 that he devised a method of working that was so successful that in one hour he took six moths. He records that *A. umbrana* is best worked for from about 4.00 pm until dusk on a calm and warm afternoon in September or early October. He notes that it does not seem to have quite the same habits as *A. cristana*, which likes the very thickest places, and is more often than not beaten out from quite close to the ground. He observes that it appears to prefer Hawthorn *Crataegus* sp. to Blackthorn, especially where the trees are old and hoary and festooned with bines of Honeysuckle *Lonicera periclymenum*. Despite having said that it is more often than not beaten out from quite close to the ground, he then comments that he believes it likes to sit high up on thicker boughs in the darker parts of Hawthorn clumps, especially where this and Blackthorn grow side by side. In such localities in the New Forest it can be made to fly by jarring the thick old boughs of Hawthorn with a heavy cudgel. He invited others to publish any information they might have; none seems to have responded.

25 September, one, 'Dorset' (*A. R. Hayward*) (G. B. Coney Coll., BCMAG); 28 September, one, 'Dorset' (*A. R. Hayward*) (J. M. Jaques Coll., Overbecks); September, no exact date given, one, 'W. Dorset' (*H. C. Hayward*) (BMNH); 6 October, one, 'New Forest' (*W. Fassnidge*) (BMNH); 7 October, one, 'Somerset' (*A. R. Hayward*) (G. B. Coney Coll., BCMAG); 13 October, one, 'Dorset' (*A. R. Hayward*) (J. M. Jaques Coll., Overbecks); 15 October, one, 'Dorset' (*A. R. Hayward*) (G. B. Coney Coll., BCMAG); October, no exact date given, one, 'Selbourne' (?*B. Smith*, the name is difficult to read) (BMNH). I assume that this is Selborne, North Hampshire (VC 12).

**1934.** 21 August, one, 'Dorset' (*A. R. Hayward*) (J. M. Jaques Coll., Overbecks); 11 September, one at Witherslack, Westmorland and North Lancashire (VC 69), initially recorded as this species by Wright (1935a), but later (1935b) he published a correction, stating that the specimen was *Acleris hastiana*. Wright sets out how the determination and re-determination came about. He comments that the large size, wingspan not specified, basal streak and date made him sure that it could only be a dark form of *A. umbrana*. This was confirmed by someone whose name he does not give. Later he sent the moth to W. G. Sheldon who stated that to the best of his belief it was a form of *A. hastiana*, namely var. *leucophaeana* Westwood, because the black basal streak in *A. umbrana* runs to the termen but in *A. hastiana* var. *leucophaeana* it does not. This form is mentioned and illustrated by Bradley, Tremewan & Smith (1973). Wright was clearly not convinced that Sheldon was correct because he then sent the specimen to F. N. Pierce for genitalic examination. Pierce replied that 'Mr. Sheldon is right; the moth is *P. [Peronea] hastiana*. It is extraordinary that *P. hastiana* should have a form so near *P. umbrana*. It makes one feel there is only one decisive test, the genitalia' (Wright, 1935b).

Although accepting Pierce's view, Wright was still puzzled. He comments (Wright, 1935b) that the date was the most perplexing feature as 'We usually take the larvae of *P. hastiana*

in early September and breed the moth indoors in October and November.' Yet he goes on to state that '*Peronea hastiana* is very scarce at Witherslack, and out of thousands of willow tips gathered over a number of years, I have only bred one (of form *nigrana* Sheldon) on October 17th, 1933.'

Wright does not state the sex of the specimen found on 11 September 1934. Pierce & Metcalfe (1922) figure the genitalia of both sexes of various *Acleris* species, but there are several errors. As Hancock (1986) points out, the figure of the female genitalia purportedly of *A. umbrana* in Pierce & Metcalfe (1922) is wrong and is of *A. hastiana*. Their figure of the male of *A. umbrana* is correct. Although their figure of the female genitalia of *A. hastiana* is also correct, the male is that of *A. schalleriana* (Linnaeus, 1761); it is their figure of the male of *A. maccana* (Treitschke, 1835) which in fact is *A. hastiana*. It may well be that some mistake arose either in transposition of some slide labels or labelling of the figures in their publication. Irrespective of how these errors arose and the sex of Wright's moth, it would not have affected Pierce's determination that Wright's specimen was not *A. umbrana*. If it was a female then it would have been *A. hastiana*, if it was a male it could not have been *A. umbrana*.

1 October, one, 'Somerset' (*A. R. Hayward*) (G. B. Coney Coll., BCMAG); 14 September, one, 'Holts' (captor unstated) (G. B. Coney Coll., BCMAG).

1935. 18 September, one, 'Somerset' (*A. R. Hayward*) (G. B. Coney Coll., BCMAG).

1937. August, no exact date given, one, 'Dorset' ('*Hayward*') (J. W. Metcalfe Coll., BCMAG); 25 September, one, 'Dorset' (*A. R. Hayward*) (G. B. Coney Coll., BCMAG); 1 October, one, 'Dorset' (*A. R. Hayward*) (G. B. Coney Coll., BCMAG).

A question arises as to whether Hayward's 1937 records were from Dorset or Somerset. This is because in his account of the Lepidoptera of Somerset Turner (1955) gives 'Haselbury Plucknett (A. R. H.) 1926, 1937.' As already noted, Hayward's record of 20 September 1926 was probably from Haselbury Plucknett. Also as already noted, Hayward lived at Misterton, Somerset. Haselbury Plucknett is a few kilometres to the north-east of Misterton and about four kilometres from the Somerset/Dorset boundary. Hayward had, however, taken a specimen somewhere in Somerset on 1 October 1934. Perhaps Turner's '1937' was a misprint for '1934' and that he had information showing that the locality was Haselbury Plucknett. If not, and if Hayward had recorded the species at Haselbury Plucknett in 1937, then I have neither traced a published account, if there was one, or the moth(s). One of the frequent difficulties encountered in trying to check records is establishing the whereabouts of specimens, if still extant. This is made more difficult when a collection is not retained in its entirety. Hayward died on 27 August 1939 (Rippon, 1939). Brown (1989) states that the fate of his collection was unknown. He comments that the collection of H. C. Hayward, the brother of A. R. Hayward, was sold at auction on 19 November 1947 and it is probable that the latter's was included. As can be seen from the records given above, specimens of *Acleris umbrana* taken by A. R. Hayward are in the BMNH, BCMAG and at Overbecks. I do not know whether he took other specimens that are now held elsewhere.

2 October, one, Balmer Lawn, South Hampshire, recorded in Fassnidge's diary (Goater, 1974). Balmer Lawn is within the New Forest. There is a Fassnidge specimen in the BMNH with this date and the locality given as 'New Forest'. This appears to be the last Hampshire record; 10 October, one, 'Dorset' (*A. R. Hayward*) (G. B. Coney Coll., BCMAG).

1948. September, no exact date given, one, 'Nettlebed', presumably in Oxfordshire (VC 23) but no county is given (*R. L. E. Ford*) (BMNH).

1949. September, no exact date given, one, 'Nettlebed' (*R. L. E. Ford*) (BMNH).
1958. 2 January, one, beaten by L. Price from Bracken *Pteridium aquilinum*, Dymock, West Gloucestershire (VC 34) (Newton, 1985). When Price published this record (1958) he gave the date but not the locality, merely including it in a note on certain species of Microlepidoptera from Gloucestershire.
1971. \*26 July, one female at light, confirmed by dissection, Saltash, East Cornwall (VC 2) (R. J. Heckford) (Smith, 1997); the first record from Cornwall.
1973. 16 October, one disturbed from a Blackthorn bush, Eastnor Park, Herefordshire (VC 36) (Dr M. W. Harper) (Harper & Simpson, 2004). Also recorded, without the same detail, by Harper (1987).
1974. 5 October, one disturbed from a garden hedge, Ledbury, Herefordshire (Dr M. W. Harper) (Harper & Simpson, 2004). Also recorded, without the same detail, by Harper (1987).
1992. \*18 September, one larva in spun leaves of Blackthorn, moth reared 25 October 1992, Heybrook Bay, South Devon (VC 3) (R. J. Heckford) (Heckford, 1993); the first record from Devon.
1993. \*15 June, one larva in spun leaves of Blackthorn, moth reared 4 July 1993, and 11 September, larvae in spun leaves of Blackthorn, moths reared between 17 and 25 October 1993, Heybrook Bay, South Devon (R. J. Heckford) (Heckford, 1994).
2003. |\*18 August, four larvae in spun leaves of Blackthorn, moths reared 22 and 29 September 2003, Heybrook Bay, South Devon (R. J. Heckford).
2004. 11 July, one at light, Wells, North Somerset (VC 6) (A. Duff) (Duff, 2005).
2006. \*18 January, one male at light, confirmed by dissection, Donderry, East Cornwall (S. C. Madge) (Madge, 2006; Clancy, 2008); \*19 July, two at light and 23 July, one at light, Plympton, Plymouth, South Devon (R. J. Heckford); \*26 August, four larvae in spun leaves of Blackthorn, moths reared between 3 and 15 October 2006, Seaton, East Cornwall (R. J. Heckford); \*17 October, one at light, Brede, East Sussex (VC 14) (D. N. Burrows) (Clancy, 2007; Clancy, 2008 and *in litt.*).
2007. \*25 August, three larvae in spun leaves of Blackthorn, moth reared 2 October, Wembury, South Devon (R. J. Heckford); \*28 and 31 August, 11 larvae in spun leaves of Blackthorn, moths reared between 27 and 30 October 2007, Devil's Point, Plymouth, South Devon (R. J. Heckford); \*2 September, three larvae in spun leaves of Blackthorn, moth reared 27 October 2007, Rame, East Cornwall (R. J. Heckford); \*23 September, one larva in spun leaves of Blackthorn, pupated but pupa died, Billacombe, Plymstock, Plymouth, South Devon (R. J. Heckford); 28 October, one at light, Langport, North Somerset, J. E. Bebbington ([www.somersetmothgroup.org.uk](http://www.somersetmothgroup.org.uk)); 21 November, one at light, Dewlands Farm, South Somerset (J. A. McGill: [www.somersetmothgroup.org.uk](http://www.somersetmothgroup.org.uk) and *in litt.*).
2008. \*11 February, one male at light, Torpoint, East Cornwall (L. A. C. Truscott); 5 and 25 March, one at light on each date, Dewlands Farm, South Somerset (J. A. McGill); \*17 and 25 July, one at light on each date, Plympton, Plymouth, South Devon (R. J. Heckford); \*26 July, one at light, West Bexington, Dorset (Dr P. H. Sterling) (Langmaid & Young, 2009; Sterling, 2009); \*30 July, one at light, Donderry, East Cornwall (J. C. Nicholls *per* L. A. C. Truscott); \*28 August, one larvae in spun leaves of Blackthorn, moth reared 8 October 2008, Devil's Point, Plymouth, South Devon (R. J. Heckford); \*14 September,



three larvae in spun leaves of Blackthorn, moths reared between 23 October and 1 November 2008, Billacombe, Plymstock, Plymouth, South Devon (R. J. Heckford); \*20 September, five larvae in spun leaves of Blackthorn, Seaton, East Cornwall (S. D. Beavan & R. J. Heckford).

**2009.** 24 February, two at light, Langport, North Somerset, J. E. Bebbington ([www.somersetmothgroup.org.uk](http://www.somersetmothgroup.org.uk)); 27 February, one at light, Bere Alston, South Devon (T. Sleep); \*22 April, one at light, Gait Barrows, West Lancashire (VC 60) (B. Hancock & R. Petley-Jones) (Langmaid & Young, 2010); the first record from West Lancashire; \*13 July, one at light, Donderry, East Cornwall (J. C. Nicholls *per* L. A. C. Truscott); 18 July, one at light, Langport, North Somerset (J. E. Bebbington); \*19 July, one at light, Donderry, East Cornwall (J. C. Nicholls *per* L. A. C. Truscott); \*1 August, one at light, West Bexington, Dorset (Dr P. H. Sterling) (Sterling, 2010; Sterling & Sterling, 2010); \*20 August, one at light, West Bexington, Dorset (M. J. Sterling) (Sterling, 2010; Sterling & Sterling, 2010); \*19 September, two larvae in spun leaves of Blackthorn, moth reared 25 October 2009, lane leading to Ayrmer Cove, South Devon (R. J. Heckford); \*1 December, one, Gait Barrows, West Lancashire (VC 60) (B. Hancock, R. Petley-Jones & R. Hilton *per* S. M. Palmer).

I should add that voucher specimens were retained only of moths reared from each of the localities where I found larvae, the other moths were released where the larvae had been collected.

### Channel Islands (VC 113)

**1971.** \*15 July, one female at light, Le Coin, St Ouen, Jersey (D. J. Clennet) (Long, 2008). Hancock (1986) states that in the course of examining some tortricoid moths received from Mr R. Long of Jersey he made a genitalia preparation of a female specimen thought to be *Acleris umbrana*. This did not agree with the figure for that species given by Pierce & Metcalfe (1922), but subsequent examination of the moth and genitalia slide by Mr K. R. Tuck at the BMNH showed that it was indeed *A. umbrana*. The purpose of his note was to point out, as already mentioned, that the figure of the female genitalia purportedly of this species provided by Pierce & Metcalfe is wrong and is of *Acleris hastiana*, and that this error had not been previously published. Hancock did not provide details of the date, locality or recorder in his published note but in correspondence with me in 1993 gave the date and the recorder, but not the locality. He also informed me that the specimen and slide were then in the Société Jersiaise collection. In his account of the Lepidoptera of the Channel Islands Shaffer (2008) simply says of its occurrence on Jersey 'data unknown, recorded by R. Long; [Société Sercquaise files][**confirmation required**].' Long published the record with the locality, but not the recorder nor the sex of the specimen, in the same year as Shaffer's publication.

**1988.** \*15 October, one at light, La Broderie, St. Pierre du Bois, Guernsey (P. D. M. Costen). Austin (2001) gives the year as 1998 and this was followed by Shaffer (2008), but the correct year is 1988 (P. D. M. Costen *in litt.*).

**1997.** \*9 July, one at light, La Broderie, St. Pierre du Bois, Guernsey (P. D. M. Costen, and *in litt.*). Shaffer (2008) only gives the month and year.

**2000.** \*2 January, one at light, La Broderie, St. Pierre du Bois, Guernsey (P. D. M. Costen) (Austin, 2001; Shaffer, 2008).

**2001.** \*November, no exact date given, one at light, Horticultural Research Station, St Martin, Guernsey (R. Austin) (Austin, 2002).

2002. \*26 March, one at light, La Broderie, St. Pierre du Bois, Guernsey (P. D. M. Costen); 27 July, one at light, Trinity Cottages, Torteval, Guernsey (J. Hooper) (Austin, 2003); \*17 November, one at light, Horticultural Research Station, St Martin, Guernsey (R. Austin) (Austin, 2003).
2004. \*25 October, 22 & 23 November, one at light on each date, Horticultural Research Station, St Martin, Guernsey (R. Austin) (Austin, 2005); \*5 November, one at light, The Dell Nursery, St. Peter Port, Guernsey (R. Austin) (Austin, 2005).
2005. \*13 July, one at light, Grands Vaux, St Saviour, Jersey (Long, 2008 and P. D. M. Costen *in litt.*); \*25 July, one at light, La Broderie, St. Pierre du Bois, Guernsey (P. D. M. Costen); 15 October, one at light, La Broderie, St. Pierre du Bois, Guernsey (P. D. M. Costen).
2006. \*7 July, one at light, L'Ancrese, Vale, Guernsey (R. Austin) (Austin, 2007); \*1 November, one at light, Horticultural Research Station, St Martin, Guernsey (Austin, 2007).
2007. \*25 November, one at light, Horticultural Research Station, St Martin, Guernsey (Austin, 2008).
2008. \*28 January, one at light, Horticultural Research Station, St Martin, Guernsey, R. Austin, ([www.societe.org.gg/sections/entomology.html](http://www.societe.org.gg/sections/entomology.html)); \*14 June, one larva in spun leaves of Blackthorn, moth reared 7 July 2008, L'Ancrese Common, Vale, Guernsey (Dr P. H. Sterling); \*19 July, one at light, The Dell Nursery, St. Peter Port, Guernsey, R. Austin ([www.societe.org.gg/sections/entomology.html](http://www.societe.org.gg/sections/entomology.html))

### Biology and description of larva

As a result of researching records from 1900 it was noted that before 1992 none was of larvae. I then tried unsuccessfully to find any published larval account in the British literature before 1900. In a paper on notes on British Tortricidae published in parts between 1872-1876 the only comment that Barrett (1873) makes about this species is that Zeller states that it is 'found among *Carpinus* (hornbeam) but rare.' Because Barrett's paper occasionally gives foodplants of other species that he mentions, but does not do so for *Acleris umbrana*, I assume that the foodplant(s) was unknown to him at that time. It also suggests that Barrett had no personal knowledge of the species, at least at that date.

Just over 30 years later Barrett (1905) lists the following foodplants, giving English vernacular names only: 'hornbeam [*Carpinus betulus*], hawthorn [*Crataegus* sp.], dogwood [*Cornus sanguinea*], mountain ash [*Sorbus aucuparia*], bird-cherry [*Prunus padus*], willow [*Salix* sp.] and alder [*Alnus glutinosa*].' The more common vernacular name now for *Sorbus aucuparia* is Rowan. Barrett does not acknowledge the source of these foodplants but it seems unlikely that they came from observations in England, otherwise someone would surely have published them. They are more likely to be based on mainland European sources.

The following summary, which does not claim to be exhaustive but may be representative, gives foodplants cited in mainland European literature before 1905.

Rössler (1867) states that according to Heinemann the larva is on Willow ('Saalweiden') and Rowan ('Vogelbeeren'). Kaltenbach (1874) gives *Salix caprea* and *Sorbus aucuparia* according to Zeller, and adds *Cornus sanguinea*. Hartmann

(1880) gives *Cornus sanguinea*, *Salix caprea*, *Sorbus aucuparia* and *Alnus glutinosa*, and *Prunus padus* according to Lienig. Rössler (1881) gives 'Sorbus, *Alnus glutinosa*, *Salix*, *Carpinus Betulus*', according to various authors. Sorhagen (1886) apparently follows Hartmann in listing *Salix caprea*, *Alnus*, *Prunus padus*, *Sorbus aucuparia* and *Cornus sanguinea*.

As can be seen, all the larval foodplants listed by Barrett (1905), except Hawthorn, had been cited in these publications. I have not been able to trace the source of Hawthorn as a foodplant.

Later British literature appears to follow Barrett. Meyrick ([1928]) gives 'hawthorn, hornbeam, *Salix*, etc.' Bradley, Tremewan & Smith (1973) and Emmet (1988) cite all the foodplants listed by Barrett. Emmet (1991) simply gives 'P. [Polyphagous] on deciduous trees'.

Blackthorn, the only species on which I have found larvae, is not included as a foodplant in any of those publications, nor in a work covering the *Acleris* species of the Palaearctic region (Razowski, 2008). It may be significant that the only larva so far found on the Channel Islands was also on Blackthorn.

Barrett (1905) describes the larva as having a black head and thoracic plate, pale green body and black thoracic legs, attributing this to Zeller but without citing any reference. I have not been able to trace whether Zeller published this description or provided Barrett with this; it is clear from Barrett's notes on British Tortricidae mentioned above that he corresponded with Zeller. The larval descriptions given by Meyrick ([1928]) and Bradley, Tremewan & Smith (1973) are in similar terms and so almost certainly based on Barrett's account. Emmet (1988 and 1991) does not provide a larval description of any species.

As set out earlier, in 1992 and 1993 I found larvae in spun Blackthorn leaves at Heybrook Bay, South Devon and reared moths. The larvae in 1992 and 1993 agreed with the description given by Barrett (1905), set out above. The larvae that I found between 2003 and 2009 accorded with Barrett's description until the final instar when the colour of the head changed from black to shining reddish brown. Because I cannot trace any illustration of the larva in the British literature and in the hope that a photograph may assist in finding larvae at other sites, Plate 17 shows a final instar larva.

All the larvae were amongst spun leaves but the methods the larvae use in spinning leaves seems to vary. Sometimes one leaf is spun above another with the larva between them and feeding on both surfaces, sometimes the larva rolls both edges of one leaf downwards, forming a pod, feeding on the tip of the leaf from within the pod. Occasionally in either method the larva also spins some silken threads from one or more leaves to the stem.

All the larvae were less than two metres from the ground; most were at less than a metre. As mentioned earlier, Fassnidge (1933) observed that adults were more often beaten out from close to the ground, so perhaps this is a species that prefers the lower areas of vegetation.



Although it appears that in mainland Europe the larvae feed on all of the species listed by Barrett, except possibly Hawthorn, it does not follow that any of them are foodplants in England. Blackthorn is the only foodplant so far known in England and it may be the sole one. This comment is based on the following observations. With the exception of Dogwood and Hawthorn, none of the other foodplants listed by Barrett (1905), Meyrick, ([1928]), Bradley, Tremewan & Smith (1973) and Emmet (1988) occurs near where I have found larvae. I have looked unsuccessfully at Dogwood and Hawthorn (*Crataegus monogyna*) where these occur with Blackthorn at localities where I have found larvae of this species. Indeed, at two of the localities Hawthorn grows amongst Blackthorn and larvae feed on Blackthorn leaves that almost touch Hawthorn leaves but despite quite extensive searching larvae were not found on the Hawthorn leaves.

It may be that in England the adults need large stands of Blackthorn, possibly old bushes, to overwinter successfully. It may also be significant that at least two males have been found in late winter, 18 January 2006 and 11 February 2008, because this may be an indication that adults that emerge in the autumn do not mate until the spring. If so then clearly it is essential that both sexes have the maximum chance to survive the winter and dense cover such as Blackthorn bushes might provide this.

### Phenology

For a long time the species was considered to be univoltine in England, with larvae occurring in June and July and adults from August to April (Barrett, 1905; Bradley, Tremewan & Smith, 1973; Emmet, 1988 and 1991) and this appears to be the position in the rest of the Palaearctic region (Razowski, 2008). It is clear, however, that in England the species is now either bivoltine or at least partly so. This is shown both by records of adults in the summer, so far all in July except for two in August, as well as in the autumn/winter, and the existence of a larva in June 1993 resulting in a moth emerging in July and larvae at the same locality in the same year in September resulting in moths emerging the following month.

It is difficult to know whether in England the species used to be univoltine and has become bivoltine, or partly so, or whether this state had always existed but had not been noted, possibly due to a smaller number of moths in the summer generation. Several *Acleris* species are bivoltine in the British Isles but most are univoltine. It appears that the first record of an adult in the summer was in July 1971 and there have been several since in that month as well as two in August. It is possible that the species used to be univoltine and that climatic changes have somehow produced circumstances favouring two generations each year. This would seem to be more plausible if the 'new' generation was found in the autumn, not in the summer, but the reverse is the position.

It seems to be clear that the species is bivoltine on the Channel Islands.

On the basis of my observations, adults occurring in July have a shorter wingspan those in the autumn. The moth at light in July 1971 has a wingspan of

18 mm and those at light in July 2006 and 2008 have wingspans of about 15-16 mm compared with those which I have reared from larvae collected in August and September whose wingspans are between 19 and 21 mm, except the one which resulted in July 1993 from the larva collected on 15 June that year whose wingspan is 17 mm. Bradley, Tremewan & Smith (1973) give a wingspan of between 18 and 20 mm. The differences of a few millimetres between the wingspan of those taken as adults in July compared with those reared does not seem much until the specimens are compared, when the difference is quite noticeable. This is not a sexual dimorphism because those found as adults and those that have been reared comprise both sexes. I do not know whether the other adults found in July and August also exhibit this difference.

Because most of the larval records given in this paper are mine and were all within 25 kilometres of where I live, it would be natural to assume an extreme recording bias. I do not think this would be entirely justified. I have failed to find larvae in apparently suitable coastal habitats in South Devon, mainly to the east of the county but also at Bovisand Bay which is less than two kilometres to the west of Heybrook Bay, where I have found larvae. I have been equally unsuccessful at finding larvae on Blackthorn at certain areas on the Lizard peninsula, Cornwall (VC 1). Also, I know that others have unsuccessfully searched for larvae in other counties.

Even if the larval records reflect extreme recording bias, records of adults, or rather lack of them, should not. Not only are more people running light traps but more are taking an interest in the Microlepidoptera, no doubt encouraged by more available identification aids both in printed form and on websites. A greater spread of people identifying Microlepidoptera means there is a greater chance of the species being recorded and this appears to be the case with the records given above from 2004 but, as also noted, with the exception of the 2006 record from East Sussex and the 2009 ones from West Lancashire, all have been from North Somerset, South Somerset, Dorset, South Devon and East Cornwall. This suggests that currently the species has a mainly south western distribution in England.

### Discussion

The question which led to this paper is whether the two records from Donderry, East Cornwall and Brede, East Sussex given by Clancy (2008) were either immigrants or from hitherto unknown resident populations.

*Acleris* species are not generally known to migrate, but this does not rule out the possibility that they may under certain conditions. The fact that Donderry is on the coast and that Brede is within 10 kilometres of the coast does not, of itself, mean that the moths were immigrants. The fact that the species has never been recorded from certain coastal areas where light traps are run on a regular basis, such as Portland in Dorset, the Lizard peninsula in Cornwall and the Isles of Scilly may be a good indicator that it is not a migrant. However, if it were recorded from

such a place this could be indicative of migration, especially as Blackthorn is either infrequent or absent from these.

Since 1971 the species has been found in 11 areas in South Devon and East Cornwall which are either coastal or within 10 kilometres of the coast. Therefore, I consider that the specimen recorded from Donderry, East Cornwall on 18 January 2006 is unlikely to have been an immigrant; it seems more likely to have been from a resident coastal population. The fact that larvae were found on 26 August that year at Seaton, East Cornwall, and at Rame, East Cornwall in 2007 and again at Seaton in 2008, which are within 1 and 12 kilometres of Donderry respectively, suggests that immigration was not the source. I do not know anything about the habitats in the Brede area, East Sussex, but consider it more likely than not that the species is resident somewhere there.

If the records given in this paper are representative of the status and distribution of *Acleris umbrana* in England since 1900 then it has suffered a marked decline and a general contraction in its range. Between 1900 and 2009 it appears to have been recorded from only the following 12 vice-counties: East Cornwall (VC 2), South Devon (VC 3), South Somerset (VC 5), North Somerset (VC 6), Dorset (VC 9), South Hampshire (VC 11), North Hampshire (VC 12), East Sussex (VC 14), Oxfordshire (VC 23), West Gloucestershire (VC 34), Herefordshire (VC 36) and West Lancashire (VC 60). It has not been recorded in Hampshire since 1937 or Oxfordshire since 1949. The only Gloucestershire record was in 1958. The last Herefordshire record was in 1974. Its current stronghold appears to be in fairly limited areas in East Cornwall, South Devon, South Somerset and North Somerset, with a presence in Dorset, East Sussex, assuming that the specimen at Brede in 2006 was not an immigrant, and West Lancashire. The records from South Somerset and North Somerset are from one and two 10-km squares respectively. Those from East Cornwall and South Devon are from 12 localities within seven 10-km squares covering a linear distance of 34 kilometres.

Obviously it is not feasible to investigate every stand of Blackthorn and so it is quite likely that *Acleris umbrana* occurs in other localities, particularly in the south-west, but perhaps at not many more than are so far known in England.

#### **Hymenopterous parasitoids reared from larvae of *Acleris umbrana***

*Tranosemella praerogator* (L.) (Ichneumonidae: Campopleginae). 1 ♀ ex larva collected on 31 August 2007 in spun leaves of Blackthorn at Devil's Point, Plymouth, South Devon, emerged 18 October 2007. This is a common parasitoid of Tortricidae and sometimes other Microlepidoptera.

*Meteorus ictericus* (Nees) (Braconidae: Meteorinae). 1 ♀ ex larva collected on 31 August 2007 in spun leaves of Blackthorn at Devil's Point, Plymouth, South Devon, emerged 4 October 2007.



### Acknowledgements

I am very grateful to Mr B. Goater (Chandlers Ford) for generously lending me two books from his library to extract Hampshire records and for his encouragement, Mr J. E. Bebbington (Langport), Mr J. A. McGill (Taunton), Mr J. C. Nicholls (Downderry), Mr T. Sleep (Bere Alston), Dr P. H. Sterling (Weymouth) and Mr L. A. C. Truscott (Torpoint) for allowing me to publish their records, Mr P. D. M. Costen (Guernsey) both for allowing me to publish his records as well as providing considerable information about Channel Islands records, Mr S. P. Clancy (New Romney), Dr J. R. Langmaid (Southsea), Mr S. M. Palmer (Preston), Mr M. S. Parsons (Butterfly Conservation, East Lulworth) and Mr C. R. Pratt (Peacehaven) for assisting in various ways, members of staff of the National Trust for allowing me access to the J. M. Jaques collection, Mr R. J. Barnett and Mrs R. A. Rowson (Bristol's City Museum & Art Gallery) for providing access to the G. B. Coney and J. W. Metcalfe collections, Dr M. R. Shaw (National Museums of Scotland, Edinburgh) and Professor Dr K. Horstmann (Würzburg) for identifying the parasitoids, Dr K. Sattler (Natural History Museum (BMNH), London) for assistance with certain German publications and Miss S. D. Beavan (Zeal Monachorum) for photographing the *Acleris umbrana* adults.

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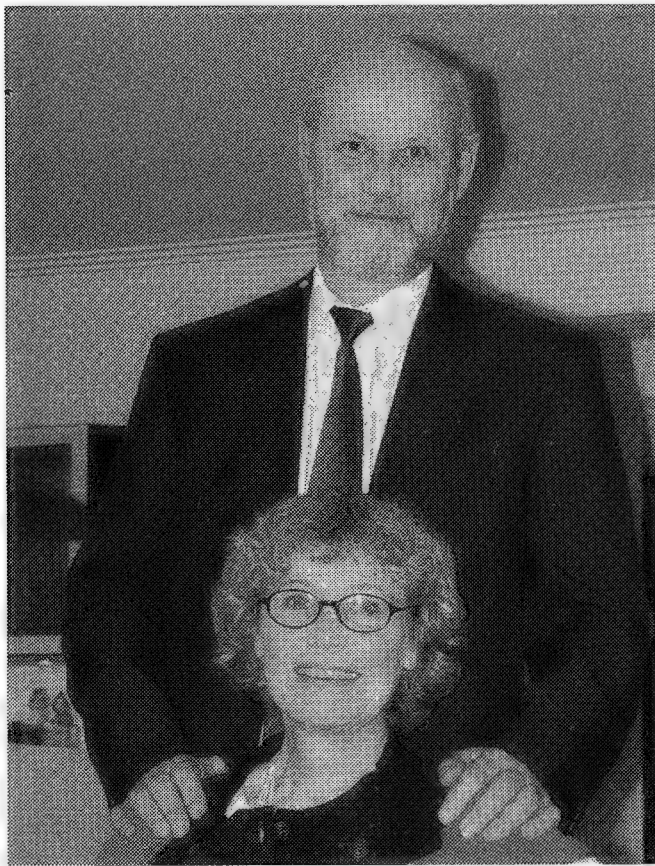
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## MICHAEL FIBIGER

1945-2011



Michael and Mariann Fibiger

Michael Fibiger, the eminent Danish lepidopterist, died on 16 February 2011, peacefully and in the presence of the closest members of his family. For close on 18 months he had battled heroically and with characteristic determination against a particularly unpleasant form of cancer, and continued with his writing and research until close to the end.

Michael was born on 29 June 1945 in Hellerup, a suburb of Copenhagen and began catching moths at the age of nine, particularly in the vicinity of the summer house where they stayed on the north coast of Zealand. By the time he was eleven he wanted to join the Danish Lepidoptera Society, but was told he was too young and must wait ‘a couple of years’. So, exactly two years later he applied again and was accepted – as the youngest-ever member of the Society.

Michael was born on 29 June 1945 in Hellerup, a suburb of Copenhagen and began catching moths at the age of nine, particularly in the vicinity of the summer house where they stayed on the north coast of Zealand. By the time he was eleven he wanted to join the Danish Lepidoptera Society, but was told he was too young and must wait ‘a couple of years’.

Michael attended teacher training college at Hellerup Seminarium from 1965 to 1970. Having graduated, he taught Danish, Biology and Special Education at Gentofte School until 1973. He also studied Clinical Psychology at the University of Copenhagen from 1970 to 1976 and subsequently he became a professional psychologist, first as a School Psychologist in the municipality of Gentofte. Later, he became Vice Deputy to the County Psychologist in Western Zealand and Chief Psychologist for the municipalities of Køge and Vallø, heading a staff of 64. In 1999, he joined the Employees’ Health Service (BST) for factories and businesses, in Køge. Amid this busy life, he attended numerous courses associated with his professional work, while still finding time for his hobby, entomology.

In 1969, Michael had the great good fortune to meet Mariann, whom he married in 1971. She remarks that he was always collecting at the time and that she spent many a cramped night in the back of a Morris Minor while Michael put up his light on moors and in forests, adding wryly that she supposes she thought he was worth it! Their first son, Ulrik, was born in 1974 and Christian in 1978, and they all went abroad together in 1985, when Christian was seven years old.

In his youth, Michael worked hard at the lepidopterous fauna of his own country, and his first contribution to the Danish Society’s journal, *Lepidoptera*, in 1968, was to record *Aegeria* (now *Sesia*) *melanocephala* new for Denmark. This clearwing moth is notoriously difficult to locate. The larva inhabits dead side-branches of Aspen *Populus tremula* and finding it requires the patience and diligence



# SOCIETY MATTERS



## AES NEWSLETTER

The *AES Wants & Exchange List*, which was first published in that form as long ago as 1946, will be discontinued after this mailing of the *Record*. It will be replaced by the new AES Newsletter.

Here are some key facts about the new AES Newsletter:

1. Like the Wants & Exchange List, the AES Newsletter will be sent out free of charge to current AES and Bug Club members.
2. It will be delivered **via email**.
3. For data protection reasons **members will need to sign up to request it**. Signing up is a simple process: you just need to visit the following website

<http://www.amentsoc.org/newsletter/signup>

and follow the instructions. (You can also unsubscribe from the newsletter at any time).

4. The Newsletter will be sent out on a **monthly** basis, and will contain Society and member notices and event information as well as the traditional Wants & Exchange section where members can place Wanted, For Sale and Exchange advertisements. Full details of how to place an advert will appear in the first Newsletter.
5. **If you do not have email** we can print a hard copy of the newsletter and post it to you. If you do need a hard copy please write to AES Newsletter, PO Box 8774, London SW7 5ZG and provide your name, post code and membership number.

We hope that the AES Newsletter will help to improve communications in the Society and will be more timely and flexible than its predecessor, whilst also being more cost-effective.

## AES WILTSHIRE

AES Wiltshire is an entomological group based in Swindon, affiliated from the outset with the Amateur Entomologists Society (AES), a registered charity.

AES Wiltshire mirrors the aims of the AES more widely – to provide a gateway to the study of insects for everyone, whatever their level of expertise or knowledge. It is a local group promoting the work that the AES does through local events, surveys, meetings & socialising. The group provides an opportunity to meet like-minded people with an interest in all things that ‘creep n crawl’.

Contact details are on this web page:

<http://www.amentsoc.org/membership/local-groups/wiltshire/>

## ‘BIG SOCIETY’

The following Council Officer roles are vacant: **AES Habitat Conservation Officer** (conservation expertise required); **Hon. Treasurer** (knowledge of accountancy or a ‘head for figures’ required). We also have a few vacancies for ‘ordinary’ Council

members. All Council members need to fulfil the Charity Commission's general eligibility criteria to be charitable trustees (e.g. serial axe-murderers need not apply) but they do not have to wait until the AGM to be co-opted to serve on Council.

If any member thinks that he or she would be able to get involved with taking the Society forward in these or other ways please get in touch with the Hon. Secretary, Dafydd Lewis ([secretary@amentsoc.org](mailto:secretary@amentsoc.org)) in the first instance.

### **BUG CLUB MAGAZINE**

We are currently short of copy for the Magazine. However, we have calculated that if every member of the Society wrote just **one** article for it we would have enough material to last the current editor's lifetime!

If you have a favourite insect whose praises you would like to sing, or perhaps an anecdote of an entomological nature that would interest a Bug Clubber (ideally with a photograph) please email it to [bug-club@amentsoc.org](mailto:bug-club@amentsoc.org) right away and leave your legacy to the next generation of entomologists.

### **CHARITABLE DONATIONS**

The Society would like to record its sincere thanks for the recent anonymous donation of £7000 to our funds, via the Redwing trust. This money comes at a good time and it will be put to prudent use.

We are also grateful to the estate of the late Andy Callow for his generous bequest of £15000 to the Society, which will be used for specific projects.

### **DOUBLE PAYERS**

Some people seem to have paid their subscriptions twice. The Registrar will be writing to them in due course. In the meantime, *please* can all members check that their payments to the Society are up to date and correct?

### **AES EVENTS**

**Friday 3rd June**

**Quarterly AES Council Meeting**

**London, 6:00 pm – 9:00 pm**

If any member would like to attend Council meetings as an observer – perhaps as a prelude to joining Council (we currently have a small number of vacancies) - please contact the Hon. Secretary in the first instance, for further information on the venue and arrangements (email: [secretary@amentsoc.org](mailto:secretary@amentsoc.org) or write to the Society's PO Box address).

**Saturday 11th June**

**Annual Joint Meeting with the British Entomological & Natural History Society (BENHS)**

The Pelham-Clinton Building, Dinton Pastures Country Park, Davis Street, Hurst, Reading, Berkshire RG10 0TH

This event, organised by Peter Hodge, will include examination of moth trap catches at 10:30 am, a lecture and/or demonstration before lunch and a visit to the BENHS building, with its new lecture room. If the weather is suitable there will be an opportunity to do field work in the country park.



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characteristic of its discoverer. Later, he found several other species new to Denmark. He was interested in the genus *Eupithecia* and discussed the relationships of the taxa *absinthiata* with *goossensiata* and *innotata* with *fraxinata*. In 1974, with N.P. Kristensen, he wrote *The Sesiidae (Lepidoptera) of Fennoscandia and Denmark*. This small book is of profound significance to me, because after its publication I wrote to Michael about *Synanthedon scoliaeformis* and was astonished to find, in his prompt reply, that he had been about to write to me on Noctuidae! Thus began the friendship between myself, the disciple, and Michael, the guru, that lasted until his untimely demise. Our first actual meeting was at the SEL Congress in Wageningen, Netherlands, in April, 1985. By then, Michael was doing a lot of collecting in Greece, at that time very underworked, specialising in Noctuidae and planning in his mind what was to become his *magnum opus*, a series of books on the Noctuidae of Europe. After Greece, Turkey became his main collecting region where, while appreciating the hospitality of the locals, he nevertheless experienced some hair-raising events near the Iranian border. He also managed collecting trips to Spain, Sicily, Crete and elsewhere, and latterly to Nepal, Eastern Siberia and Yemen, the last another rather 'hairy' experience.

In this country, Michael is best known for his *Noctuidae Europaeae*, which began as a twelve volume guide to the identification and distribution of all the European species. At the time, the taxonomy of the family was in a state of flux, and he decided to use the 'traditional' sequence, starting with *Euxoa* and the rest of the Noctuinae and ending with Hypeninae and Herminiinae. The 1990s heralded an explosion of interest in the phylogeny of the Lepidoptera which, together with extensive revisions of their classification, had considerable influence on the evolution of *Noctuidae Europaeae*. The decision was made to include figures of genitalia for all species and increasing emphasis was given to noctuid phylogeny. The first-class colour photographs of the imagines were made by David Wilson, who also made the exquisitely delicate drawings for the front covers. Michael himself wrote the first three volumes single-handed and remained Editor-in-Chief while other specialists were called upon, when ready, to deal with their own groups. Even so, Michael continued to make important contributions as a co-author in Volumes 8 to 12. On 11 January 2011, a grand Reception for Michael was held to celebrate the completion of what was regarded as his life's work.

After the butterflies, the Noctuidae are undoubtedly the most popular of all the Lepidoptera and much, but by no means all of what went into *Noctuidae Europaeae* was already known. However, among the many small Lepidoptera collected by Michael and presented to the Zoological Museum, University of Copenhagen, the sharp-eyed Ole Karsholt recognised a specimen taken by Michael in Turkey in 1986 as a minute noctuid. Thus began what surely became by far the greatest contribution to the science of Lepidopterology in recent times. Having located specimens of *Micronoctua karsholti* Fibiger, 1997, as this species became known, from the Greek islands of Samos, Cos, Rhodes and Crete as well as Turkey, Michael began a systematic search for more of these tiny noctuids, during which he



combed the collections of un-named 'microlepidoptera' in museums up and down the World and extended his own collecting activities further afield. The results were astonishing. Between the years 2007 and 2010, Michael described a new family, Micronoctuidae, six subfamilies, eight tribes, 38 genera, four subgenera, 200 species plus another 14 in co-authorship, and one subspecies.

In the months before he died, Michael was preparing another important paper on Micronoctuidae, in which he described two more new subfamilies, 13 new genera, 82 new species and two new subspecies. His colleagues saw that it was published shortly after his death, in April 2011. He was also at work with Hermann Hacker on the first part of a treatise on the African Eubleminae, with about 20 more new species, which has yet to be completed and published.

Michael was involved with other projects. He was Editor-in-Chief of *Noctuidae Sibiricae* by Vladimir Kononenko, the first volume of which, *An Annotated Check List of the Noctuidae (s.l.) (Insecta, Lepidoptera) of the Asia part of Russia and the Ural Region*, came out in 2005, followed in 2010 by the second volume in a planned series of four, which covers Micronoctuidae and Noctuidae from Rivulinae to Agaristinae. He contributed to *The Lepidoptera of Europe: a Distributional Checklist*, edited by O. Karsholt and J. Razowski. With D. Lafontaine, he wrote *A review of the higher classification of the Noctuoidea (Lepidoptera) with special reference to the Holarctic fauna* in *Esperiana* 11 (2005), and in the same volume, with H. Hacker, an updated *Systematic List of the Noctuoidea of Europe*. In 2009, with M. Top-Jensen as co-author, the richly illustrated *Danmarks Sommerfugle* was published, and the two authors were contemplating an English version in the weeks before Michael died. On 10 February 2011, he was presented with the prestigious H. H. Bloomer Award from the Linnaean Society in recognition of his contribution to Lepidopterology

It has to be remembered that Michael was, in the strict sense, an amateur lepidopterist. His formal training was in teaching and psychology. He did his early work on Lepidoptera in his free time, and he never worked professionally in a museum or in a science department of a university. Even so, he deservedly earned the respect and admiration of his professional colleagues. He was endowed with boundless energy and enthusiasm which sometimes bordered on the impetuous, penetrating perspicacity and above all he had an absolutely charming, kind and generous personality which endeared him to everyone, especially those with whom he went on entomological expeditions. Michael was to be seen on many occasions among the Noctuidae at the Natural History Museum, London, and attended the Annual Exhibition of BENHS on at least one occasion.

Michael and Mariann were famous for their hospitality at their home in Sorø, and colleagues will retain happy memories of visits there. The entomological community at large will miss Michael grievously, and every one of us offers sincere and heartfelt condolences to Mariann, Ulrik and Christian and Michael's sister, Ulla on their loss.

Barry Goater

## NEW SPECIES OF MEGALODONTESIDAE (HYM., SYMPHYTA, PAMPHILIOIDEA) FROM NORTH AFRICA AND THE MIDDLE EAST

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### Abstract

Five new species of Megalodontesidae are described from North Africa and the Middle East, namely *Megalodontes crassicornis*, *M. guichardi*, *M. huddlestoni*, *M. quinlani* and *M. weiffenbachi*. Brief notes are given to distinguish them from closely-related congeners.

**Key words:** Hymenoptera; Israel; male genitalia; *Megalodontes*; Megalodontesidae; Morocco; Pamphilioidea; Symphyta; Turkey

### Introduction

Megalodontesidae is a small family of small to medium-sized sawflies ('Symphyta'), with approximately 45 species considered valid. These are Palaearctic in distribution, occurring between the latitudes of 27° and 54-56° N, within arid, semi-arid or locally xeric habitats (Springate, 1995). Their host-plant associations with Rutaceae and Apiaceae (with the exception of a few species of Tenthredinidae) are unique within Hymenoptera and these are detailed in Springate (1995). The family is regarded as the sister-group of Pamphiliidae, in the superfamily Pamphilioidea (e.g., Gauld and Bolton, 1988; Vilhelmsen, 1997). The most convincing synapomorphies of Megalodontesidae and Pamphiliidae are the closure of the cephalic cavity, with separate mandibular cavities, and the presence of a supra-anal hook in the larvae. However, the knowledge of larval Megalodontesidae is so limited that the latter requires confirmation. The two families are often associated on the basis of possession of flattened abdominal sclerites, but no Megalodontesidae possess this feature and it is better regarded as an autapomorphy for Pamphiliidae (Springate, 1995).

The taxonomic history of Megalodontesidae is detailed in Springate (1995) and only a précis is given here. The first, named, member of the family, *Tenthredo cephalotes* (Fabricius, 1781) was placed in a new genus *Megalodontes* (Latreille, 1802). Later, and with the knowledge of Latreille's description of *Megalodontes*, Fabricius (1804) erected the genus *Tarpa* and placed *cephalotes* and a new species, *plagiocephalus*, within it. This was to set a precedent for more than ninety years, since all but one of the species described before Konow's (1897) revision was placed within this genus. Latreille (1810) placed both species within *Megalodontes*.

The major synopses and revisions of Megalodontesidae are those of Klug (1824), Zaddach (1865, in collaboration with C.G.A. Brischke), André (1879-1882), Kirby (1882), (Dalla Torre, 1894), Konow (1897), Ashmead (1898, who standardised the endings of Hymenoptera suprageneric names, Megalodontides

thus becoming Megalodontinae), MacGillivray (1906, formal elevation to family status), Gussakovskij (1935) and Klima (1937). Megalodontidae of 'Symphyta' is a homonym of the same within fossil Bivalvia, the latter based upon the fossil genus *Megalodon* Sowerby, 1827 (Springate, 1994) and the sawfly family name was emended to Megalodontesidae (ICZN, 1996).

The taxonomy of Megalodontesidae has been compiled piecemeal, using a limited set of characters and heavily reliant on subtle differences in the coloration of sclerites or segments, cephalic and thoracic punctation, numbers of antennal segments (or of those missing flabella) and the relative length of the flabellum of the third antennal segment. A detailed character analysis and assessment (Springate, 1995), based on a large series of specimens from a single population of 12 nominal taxa, demonstrated that many characters used previously were useful to a certain extent, but were found to be inadequate for defining species. The re-examination of adult morphology showed that characters derived from the male genitalia, in combination with those from the mouthparts, antennal morphology and dimensions and colour syndromes, were of great significance in the diagnosis and definition of species of Megalodontesidae. In addition to species' redescription, five new species were described, but only numbered, rather than being named formally. The identities of *Megalodontes escalerae* (Konow, 1899) and '*Megalodontes* sp. 3' were confused and, subsequently, it was found that the latter was *M. escalerae* and the former represented a new species, which is described here.

### Morphological Terminology

The morphological terms used herein follow those in Richards (1977), Gibson (1985), Gauld and Bolton (1988) and Gibson (1993), those for sculpture follow Eady (1968) and the majority of those for the genitalia structures follow Ross (1945). Cephalic morphology is expressed as ratios between measurements taken from the vertex, lower face, mouthparts and antennae. 'EA' represents the eye angle, which is either perpendicular (or nearly so) (Fig. 1) or convergent (Fig. 2). A is the distance between the rear ocellus and the eye and B is the distance between the rear ocelli; these are compared in the ratio 'AB'. C is the diameter of the rear ocellus (Fig. 3) and is compared with B in the ratio 'BC'. 'DE' is the ratio of the length of the third antennal segment in comparison with that of the pedicel and 'DF' compares the former with the sum of the lengths of the fourth and fifth antennal segments. The relative length of the third antennal flabellum is used for the identification of both species groups and species and its definition is, therefore, important. The apex of the flabellum should be examined in relation to a perpendicular line (or pair of lines), drawn from the dorsal apex (or apices) of the flagellar segment(s). For nearly all species, particularly those with long flabella, this estimation will lie between two points of origin and is expressed in terms of 'as long as the following 1-2 (Fig. 7) or 5-6 (Fig. 8) segments', for example. An antennal segment is defined as being without a flabellum when there



is no distinct ventral projection at its apex. All measurements of relative sizes of antennal segments are based upon viewing the inner face of the antenna. Lengths of segments are based upon measurements along their dorsal surface and widths upon the maximum apical distance between dorsal and ventral surfaces.

In contrast with the overall instability of individual cephalic colour characters, four general patterns of coloration of the vertex and the face of the male were noted. Arbitrarily, these syndromes were given specific names and three, 'flabellicornis' (Fig. 4), 'bucephalus' (Fig. 5) and 'cephalotes' (Fig. 6) are relevant to the present paper. 'Flabellicornis' syndrome has the vertiginal yellow reduced to two longitudinal flecks, posterior to the rear ocelli and extending toward the occiput, either contiguous or discontinuous with the post-genal yellow; 'bucephalus' syndrome has the vertiginal yellow reduced to a narrow strip above the occiput and contiguous with the post-genal yellow and two small occipital remnants of the post-ocellar flecks and 'cephalotes' syndrome consists of a narrow post-genal stripe of yellow and two lateral flecks of yellow between the occipital remnants of the post-ocellar striae. In some species, the medial part is absent, but is considered to be similar. 'Flabellicornis' facial colour syndrome is defined by the large triangular shape of the lower facial yellow being separated from that between the antennal insertions and the eye margins, whereas 'cephalotes' syndrome has the facial yellow reduced to three, roughly equal-sized, flecks.

### Species Descriptions

The following abbreviations, following Arnett and Samuelson (1986), for museums and other repositories of specimens are used in the text:

BMNH Natural History Museum, London, UK

INRA Centre de Biologie pour la Gestion des Populations, Montpellier, France

LNMO Landesmuseum Natur und Mensch, Oldenburg, Germany

ZSMC Zoologische Staatssammlung, München, Germany

#### *Megalodontes crassicornis* n.sp.

##### Male

*Length:* 9-10 mm; EA 0.87-0.92; AB 2.88-3; BC 2.67; DE 1.64-2.2; DF 0.82-1.05 (2 specimens measured)

*Colour:* predominately black throughout on head, thorax and dorsum of abdomen; predominately white-yellow on venter of abdomen.

*Head:* Post-ocellar striae complete. Pentagonal area with wide and shallow excavation extending from anterior ocellus to anterior puncture. Genal carina present. Malar space narrow. Galea elongate; glossa distinctly longer than galea, slightly downwardly curved apically, parallel-sided; paraglossa slightly shorter than glossa, slightly downwardly curved apically, between laminar and hemicylindrical. Antenna 19-20 segmented, 4-5 without flabellum; pedicel transverse;

flabellum of third segment as long as the following 1-2 segments.

*Thorax*: Pronotal collar collapsing. Hind coxal-apical incision closed.

*Abdomen*: Tergum 8 broad and deep furrow becoming obsolete apically. Basal plate curved gradually toward dorsum, without lip, apical surface flattened, apical margin concave. Dorsal internal margin of gonostipes sub-parallel at extreme base, then diverging gradually to just beyond median and then sharply angled toward apex. Dorsal longitudinal sclerotisation of gonostipes complete (Fig. 9). Dorsal articulation of gonostylus and gonostipes projecting very slightly anteriorly to ventral. Dorsal silhouette of gonostylus, viewed laterally, upwardly curved apically; dense coating of long hairs, slightly shorter and sparser apically; gonomaculae elliptical. Lateral surface of volsella rounded. Digitus broad basally, dorsally slightly concave to beyond mid-length, convex in apical one-third; ventrally straight or marginally concave for basal three-quarters, convex to apex (Fig. 11). Cuspis digitiform; volsellar pocket very broad apically (Fig. 11). Penis valve, dorsally, sub-parallel in basal half, appearing constricted between base and median, tapering from median to apex and appearing secondarily constricted at apex; lateral flaps undeveloped; laterally as in Fig. 20; aedeagal apodemes slightly flared apically.

### Female

*Length*: 9-10mm; EA 0.89-0.9; AB 2.89-3.22; BC 1.5; DE 1.9-2; DF 0.83-0.91 (2 specimens measured)

*Colour*: predominately black throughout, similar to males but white-yellow markings greatly reduced.

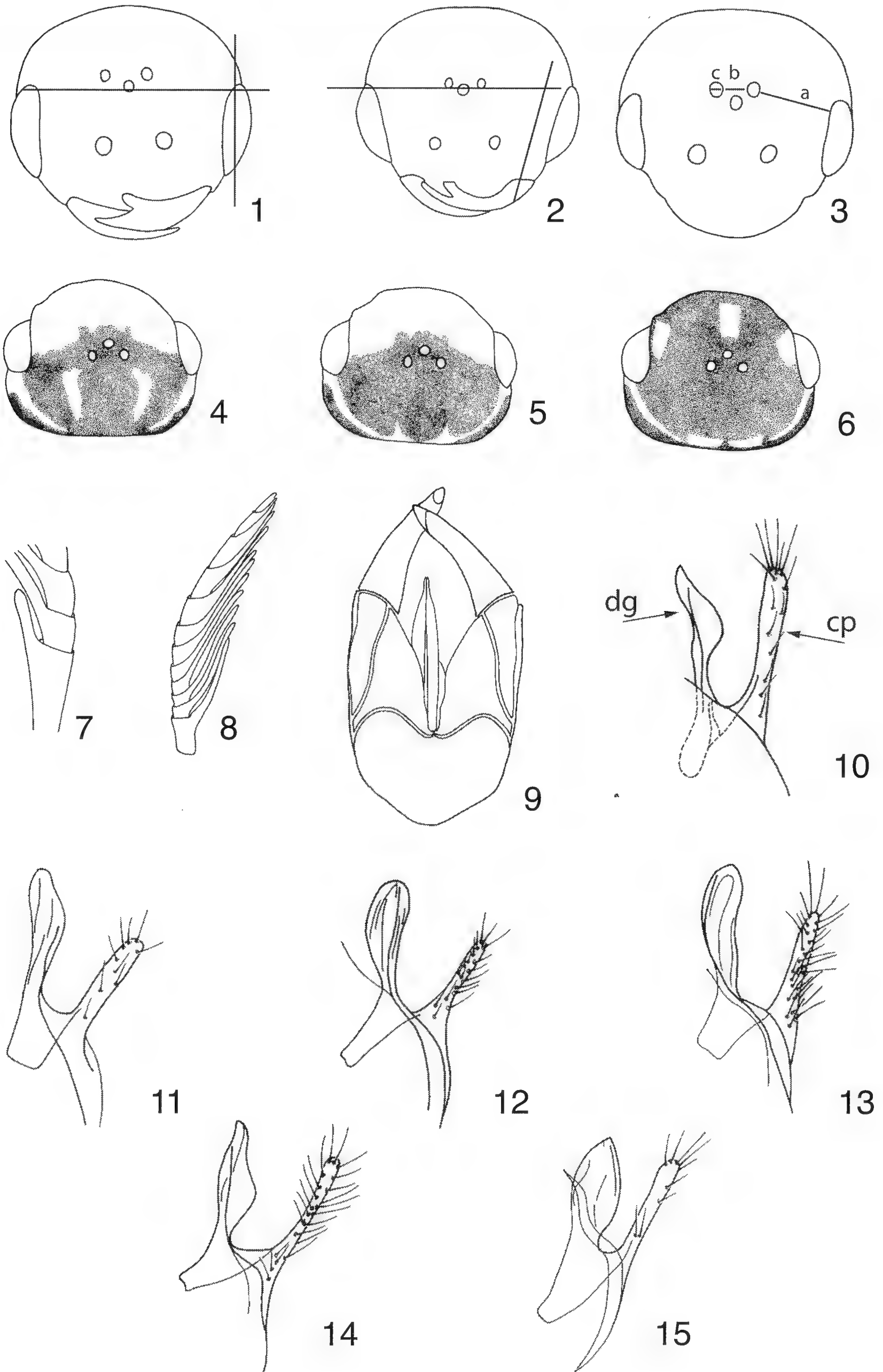
*Material examined*: HOLOTYPE ♂Turkei, 2100m, 10km N Karakurt, 1.6.1988, K. Warncke (ZSMC); PARATYPES 1♂, 2♀♀ same data as holotype (ZSMC).

*Distribution*: Turkey

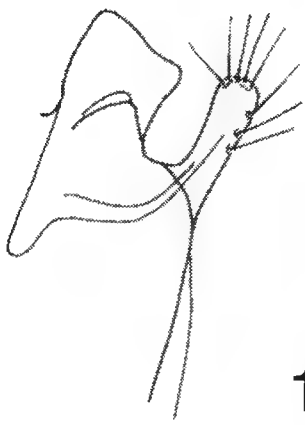
*Etymology*: The species is named for the swollen apex of the scape.

*Comments*: The new species is related to both *M. cephalotes* (Fabricius, 1781) and *M. turcicus* (Mocsáry, 1881) as defined in Springate (1995) and was described as 'Megalodontes sp.2'. Males are distinguished from those of *cephalotes* by (i) the greater BC value (2.67 in *crassicornis*; 1.39-1.44 in *cephalotes*), (ii) the form of the digitus and the volsellar pocket (compare Figs 11 and 10); and (iii) the lateral form of the penis valve (compare Figs 20 and 21) and from those of *turcicus* by (i) the lighter scape (ochraceous in *crassicornis*; all black in *turcicus*), (ii) the coloration of sterna 3-7 (black with white-yellow band apically in *crassicornis*; black with small white-yellow markings apico-medially in *turcicus*) and, to a lesser extent, (iii) the slightly shorter flabellum of the third antennal segment (as long as the following 1-2 and 2 segments in *crassicornis* and *turcicus*, respectively). Females are separated from those of *turcicus* by (i) the lighter scape (ochraceous in *crassicornis*; black basally, dark-brown apically in *turcicus*) and (ii) the higher AB value (2.89-3.22 in *crassicornis*; 2.45-2.64 in *turcicus*). Genitalia of holotype dissected, mounted on card and on same pin as adult specimen.

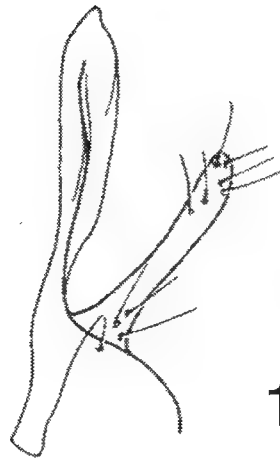
Figures 1-29. New species of Megalodontesidae illustrations – see text for details.



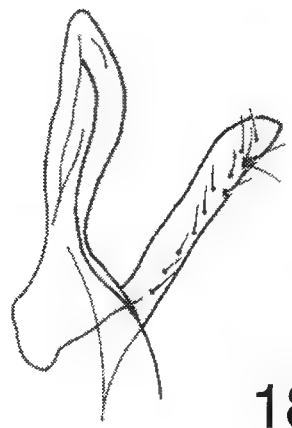




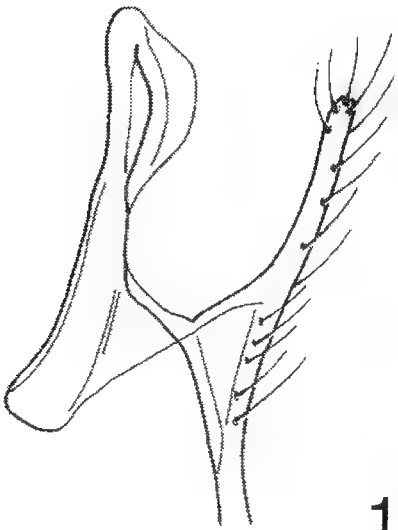
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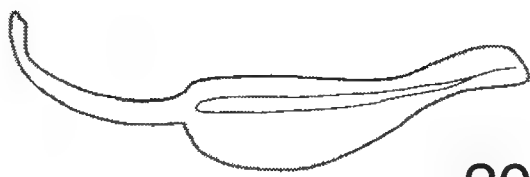
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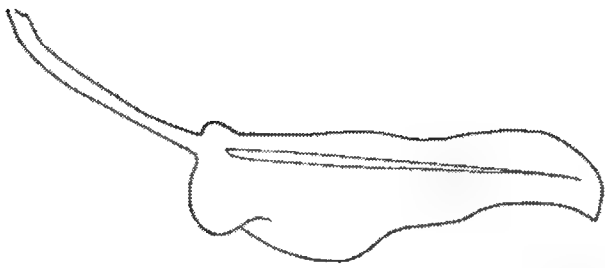
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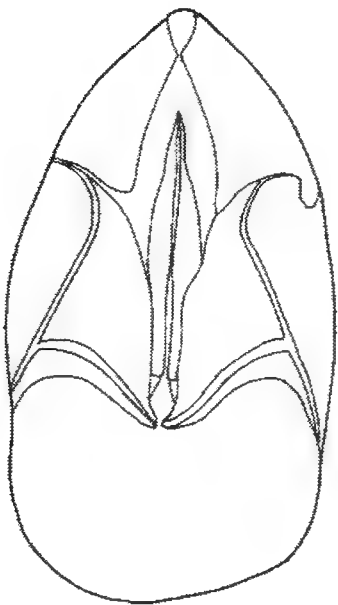
22



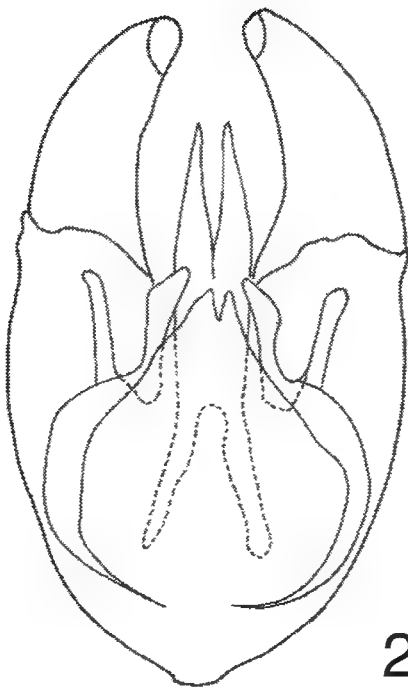
23



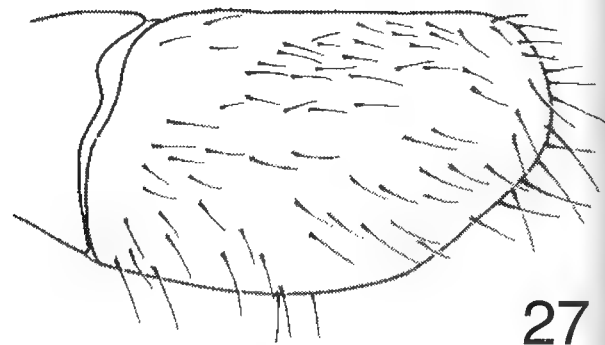
24



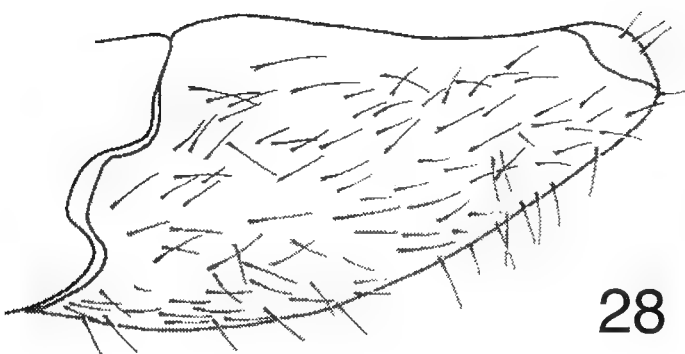
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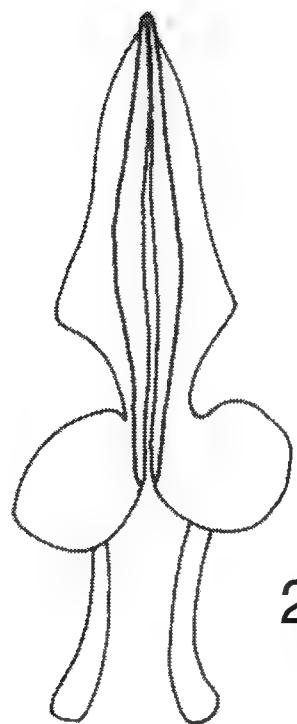
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***Megalodontes guichardi* n.sp****(Male)**

*Length*: 11-12 mm; EA 0.92; AB 2.45; BC 1.67; DE 1.14; DF 0.86 (2 specimens measured).

*Colour*: dorsally, head and thorax predominately black, except dorsum of pronotum; abdomen predominately yellow.

*Head*: Post-ocellar striae incomplete. Pentagonal area slightly excavated in region of anterior ocellus, otherwise flat to anterior puncture. Genal carina present. Malar space narrow. Galea slightly elongate; glossa elongate, parallel-sided or slightly tapering toward and downwardly curved at apex; paraglossa hemi-tubular, slightly shorter than glossa. Antenna 16 segmented, 1 without flabellum, pedicel oblong; flabellum of third segment as long as the following 5-6 segments.

*Thorax*: Pronotal collar collapsing. Hind-coxal apical incision open.

*Abdomen*: Tergum 8 with deep furrow, narrowing and becoming obsolete toward apex. Basal plate curved gradually, but strongly narrowed towards dorsal surface of abdomen; without lip; apical surface slightly rounded; apical margin slightly convex. Dorsal inner margins of gonostipes divergent basally, curving laterally from mid-length to apex. Dorsal sclerotisation of gonostipes complete. Dorsal articulation of gonostipes and gonostylus projecting apically of ventral. Dorsal surface of gonostylus straight. Gonostylus with dense coating of long hairs, sparser apically; gonomaculae deformed circular. Lateral surface of volsella rounded. Digitus, viewed latero-ventrally, as a large lamina, dorsal surface straight; ventral surface divergent to between one-third and mid-length, convex to apex (Fig. 12). Cuspis digitoid, slightly shorter than digitus, projecting distinctly anteriorly of parapennial lobes; volsellar sac symmetrical, wide apically (Fig. 12). Penis valve laterally digitiform, unciform apically (cf. fig. 22) and dorsally slightly divergent from base to beyond mid-length, tapering to apex, lateral lobes narrow; aedeagal apodemes flared apically.

**Female**

*Length*: 9-12 mm; EA 0.9; AB 2.72; BC 1.64; DE 0.92-0.93; DF 1.25 (2 specimens measured)

*Colour*: similar to male; ventrally predominately black throughout.

Morphology as male with the exception of the following.

*Head*: Antenna 15 segmented, 1 without flabellum; flabellum of third segment as long as the following 5-6 segments.

*Material examined*: HOLOTYPE ♂ Israel, Tel Aviv, 24-26.iii.1988, K.M. Guichard (BMNH); PARATYPES, 5♂♂, 10♀♀ same data as holotype (BMNH).

*Distribution*: Israel.

*Etymology*: The species is named for the late Kenneth M. Guichard, who collected the type series and whose collection of a wide range of Megalodontesidae proved vital for the first author's research.

*Comments:* The new species is related to *M. evermanni* (Freymuth, 1870), *M. jucundus* (Mocsáry, 1891) and *M. reitteri* (Konow, 1894), as defined in Springate (1995), and was described in error as *M. escalerae* (Konow, 1899). One male paratype is considerably darker on its terga and sterna and the yellow flecks behind cenchri are absent, although its head and thoracic coloration are the same as the other material examined. Males may be separated from *evermanni* by (i) the lesser DF (0.86 in *guichardi*; 1.15-1.67 in *evermanni*) and (ii) the greater BC (1.67 in *guichardi*; 1.38-1.59 in *evermanni*) values and (iii) the form of the digitus (compare Figs. 12 and 13). Males may be distinguished from those of *reitteri* by (i) the lateral and ventral regions of the thorax and sterna being widely marked in black (yellow in *reitteri*), (ii) the greater DE value (1.14 in *guichardi*; 0.83 in *reitteri*), (iii) the form of the digitus (compare Figs 12 and 14) and (iv) the form of the aedeagal apodemes (flared apically in *guichardi*; parallel-sided and rounded apically in *reitteri*). Females are distinguished from those of *jucundus* by the (i) yellow coloration of the sclerite above the sawsheath (black in *jucundus*) and (ii) closely punctate mesoscutum (very sparsely punctulate-punctate in *jucundus*). In turn, they are separated from those of *reitteri* by the greater degree of upper facial yellow (produced distinctly inwardly toward ocelli with its most apical point lying posterior to a lateral line drawn through the anterior ocellus in *guichardi*; produced slightly inwardly toward ocelli with its most apical point lying anterior to a lateral line drawn through the anterior ocellus in *reitteri*). Genitalia of holotype dissected, mounted on card and on same pin as adult specimen.

***Megalodontes huddlestoni* n.sp.**

**Male**

*Length:* 9-10 mm; EA 0.92; AB 2.33; BC 1.91; DE 2.92; DF 1.03 (1 specimen measured)

*Colour:* predominately black on head and thorax, dorsally and ventrally; predominately yellow on abdomen, dorsally and ventrally.

*Head:* Post-ocellar striae incomplete. Pentagonal area slightly excavated near anterior ocellus, otherwise flattened to apical puncture. Genal carina present, but only distinct in malar region. Malar space narrow. Galea elongate; glossa longer than galea, curved downward apically, parallel-sided; paraglossa hemi-tubular, shorter than glossa. Antenna 15 segmented, 3 without flabellum; pedicel transverse; flabellum of third segment as long as the following 1-2 segments.

*Thorax:* Pronotal collar collapsing. Hind coxal-apical incision closed.

*Abdomen:* Tergum 8 with broad and deep furrow, becoming obsolete apically. Basal plate curved gradually toward apex; without lip; apical surface slightly impressed; apical margin slightly convex. Dorsal inner margins of gonostipes parallel basally, widely divergent to three-quarter length and secondarily curved laterally to apex. Dorsal sclerotisation of gonostipes complete. Dorsal articulation of gonostipes and gonostylus projecting more anteriorly than ventrally. Dorsal



surface of gonostylus straight; gonostylus with sparse coating of long hairs, becoming slightly shorter apically (Fig. 27); gonomaculae large, appearing truncate basally and semi-circular. Lateral surface of volsella rounded. Digitus, in latero-ventral view, with inner face longer than outer, slightly curved toward outer apically, outer face concave basally, then concave to apex (Fig. 15). Cuspis digitiform; volsellar pocket wide apically (Fig. 15). Penis valve dorsally mitriform, similar to *gratiosus* but lateral lobes less well developed (Fig. 29) although more so than in *bucephalus* and *capitalatus*; viewed laterally with shallow curvature on baso-dorsal surface, dorsally weakly concave to strongly rounded apex, ventrally angled downwards from base to mid-length then weakly angled or convex to apex; aedeagal apodemes slightly flared apically.

### Female

*Length*: 7.5-9.5 mm; EA 0.94; AB 2.33; BC 1.62; DE 2.13; DF 1.14 (1 specimen measured)

*Colour*: yellow predominant only on dorsum of abdomen; remainder predominately black.

Morphology as male with the exception of the following.

*Head*: Antenna 14 segmented, 2-3 without flabellum; pedicel square or transverse.

*Material examined*: HOLOTYPE ♂, Imouzzer MAROC 23.5.1982 H. TUSSAC/Megalodontes bucephalus Kl. ♂ H. Chevin det 84/ INRA coll. Chevin/Megalodontes sp.n. 4 det. N.D.Springate, 1994 (INRA); PARATYPES 2♀♀, data as holotype, but both identified as female by Chevin and only one bearing label Megalodontes sp.n. 4 det. N.D.Springate, 1994 (INRA).

*Distribution*: Morocco

*Etymology*: The species is named for Tom Huddleston for all his advice in method and technique in hymenopterology to the first author and for generous support of his research.

*Comments*: The 'bucephalus' syndrome (Fig. 5) indicates a member of the *bucephalus* species group and the form of the penis valves in dorsal view suggest that it is related to *M. gratiosus* (Mocsáry, 1881), as defined in Springate (1995), and was described as '*Megalodontes sp.4*'. The presence of a carina in the malar region only (a genal carina is present in *gratiosus*), the greater DE value (2.92 in *huddlestoni*; 1.67-1.73 in *gratiosus*), the shorter flabellum of the third antennal segment (at most as long as the following 1-2 segments in *huddlestoni* and following 2 segments in *gratiosus*), the form of the digitus (compare Figs 15 and 16) and the complete dorsal sclerotisation of the dorsal surface of the gonostipes (incomplete in *gratiosus*) distinguish the males of the new species from those of *gratiosus*. The shorter third antennal flabellum (as long as the following 2-3 segments in *gratiosus*) the lower DF value (1.14 in *huddlestoni*; 1.55 in *gratiosus*) separate the females from those of *gratiosus*. Genitalia of holotype dissected, mounted on card and on same pin as adult specimen.

***Megalodontes quinlani* n.sp.****Male**

*Length:* 10 mm; EA 0.9; AB 2.89; BC 1.5; DE 1.58; DF 1.21 (1 specimen measured)

*Colour:* predominately black dorsally, laterally and ventrally on head and thorax; predominately yellow on dorsum and venter of abdomen.

*Head:* Post-ocellar striae incomplete. Pentagonal area with very slight excavation in region of anterior ocellus, otherwise planar to anterior puncture. Genal carina present. Malar space narrow. Galea elongate; glossa and paraglossa missing. Antenna 18 segmented, 4 without flabellum; pedicel square; flabellum of third segment as long as the following 1-2 segments.

*Thorax:* Pronotal collar collapsing. Hind-coxal apical incision closed.

*Abdomen:* Tergum 8 broad, widely separated and shallow impression. Basal plate curved gradually toward dorsum; without lip; apical surface very slightly impressed; apical margin very slightly concave. Dorsal internal margin of gonostipes diverging gradually from base to apex, curved abruptly apically. Dorsal longitudinal sclerotisation of gonostipes complete. Dorsal and ventral articulations of gonostylus and gonostipes projecting equally apically. Dorsal silhouette of gonostylus, viewed laterally, straight but curved upward strongly at apex. Gonomaculae square but rounded at corners. Lateral margins of volsella rounded. Digitus straight to slightly concave dorsally for three-quarters its length, slightly convex toward apex; ventrally divergent from base in basal one-third; in apical two-thirds convex to apex, giving the digitus a somewhat pointed appearance (Fig. 17). Cuspis digitiform, very broad and long, as long as digitus (Fig. 17). Penis valve dorsally sub-parallel in basal two-thirds, appearing constricted between base and median, tapering from median to apex and appearing secondarily constricted between the two; lateral lobes narrow; apices of aedeagal apodemes slightly flared.

**Female**

*Length:* 12 mm; EA 0.87; AB 2.33; BC 1; DE 1.67; DF 1.15 (1 specimen measured)

*Colour:* similar to male, but more extensively marked with yellow dorsally, particularly the considerably thickened vertiginal coloration, and more extensively black laterally and ventrally.

Morphology as male with the exception of the following.

*Head:* Post-ocellar striae appearing complete. Glossa elongate parallel sided and downwardly curved at apex; paraglossa hemi-tubular and shorter than glossa. Antenna 19 segmented, 4-5 without flabellum.

*Material examined:* HOLOTYPE ♂ (Israel) Place of Sacrifice, 9.4.30 Carmel/ Brit. Mus. 1934-580 (BMNH); PARATYPES 1 ♀, (Israel) Place of Sacrifice, 26.3.30 Carmel/ Brit. Mus. 1934-580/ *Megalodontes* ? mundus Kon. det. R.B. Benson 1961 (BMNH); 1 ♂, Palestine Carmel, 27.3.30 S. Tapuchi/ Pres. by Imp. Inst. Ent. B.M. 1935-101/ *Megalodontes mundus* Konow ♂ det. R.B. Benson, 1934 (BMNH).

*Distribution:* Israel

*Etymology:* The species is named for John 'Jack' Quinlan, whose kind guidance enthused the first author to take up symphytology.

*Comments:* Benson (1968: 115) considered the aforementioned material to be *M. laticeps* Konow, 1897. The form of the digitus suggests that the new species is related to *M. escaleraei* (Konow, 1899), *M. flabellicornis* (Germar, 1825) and *M. luteiventris* (Konow, 1894), as defined in Springate (1995), and was described as '*Megalodontes* sp.1'. Males of *quinlani* are distinguished from those of *turcicus*, the *cephalotes* complex and *crassicornis* by (i) their facial coloration ('flabellicornis' syndrome in *quinlani*; 'cephalotes' syndrome in the others) and (ii) the coarser punctation between the rear ocelli and the eyes (closely and coarsely punctate to punctate-rugulose in *quinlani*; at most closely and coarsely punctate, but never punctate-rugulose, in the other species). (However, it should be noted that the vertiginal coloration is closer to that found in the *cephalotes* complex than that found in members of the *flabellicornis* complex and allied taxa.) Females are distinguished from those of *luteiventris* by the shorter flabellum of the third antennal segment (as long the following 1-2 segments in *quinlani* and 4-5 segments in *luteiventris*) and the complete post-ocellar striae (incomplete in *luteiventris*). They are separated from those of *escaleraei* and the *flabellicornis* complex by the coarser punctation between the rear ocelli and eyes and on the mesoscutum (at most punctulate-punctate to closely punctate in *escaleraei* and the *flabellicornis* complex). Genitalia of holotype dissected, mounted on card and on same pin as adult specimen. One male is missing its head and is badly damaged.

***Megalodontes weiffenbachi* n.sp.**

**Male**

*Length:* 11-12 mm; EA 0.88-89; AB 3-3.1; BC 1.43-1.5; DE 2; DF 0.92 (2 specimens measured).

*Colour:* predominately black on head and thorax, dorsally and ventrally; predominately yellow laterally on thorax and dorsally and ventrally on abdomen.

*Head:* Post-ocellar striae incomplete. Pentagonal area with broad and very shallow excavation between anterior ocellus and anterior puncture, appearing planar on casual inspection. Genal carina present, only distinct in malar region, remainder present as angle between gena and postgena. Malar space narrow. Galea elongate; glossa distinctly longer than galea, slightly downwardly curved apically, parallel-sided; paraglossa shorter than glossa, slightly downwardly curved apically, between laminar and hemi-cylindrical. Antenna 21-23 segmented, 7-9 without flabellum; pedicel square; flabellum of third segment as long as the following 1-2 segments.

*Thorax:* Pronotal collar collapsing. Hind-coxal apical incision closed.

*Abdomen:* Tergum 8 with broad, widely separated and shallow impression. Basal plate curved strongly toward dorsum; without lip; apical surface flattened; apical



margin convex. Dorsal internal margin of gonostipes sub-parallel basally, sharply angled apico-laterally from median. Dorsal longitudinal sclerotisation of gonostipes complete (Fig. 25). Dorsal surface of gonostylus, viewed laterally, straight, curved upwards in region of gonomaculae (Fig. 28). Dorsal articulation of gonostylus and gonostipes projecting anteriorly to ventral. Gonostylus with sparse coating of long and dark hairs interspersed with shorter, finer and lighter hairs (Fig. 28); gonomaculae in the shape of a deformed circle projecting basally or deformed ellipse apically rounded. Lateral surface of volsella rounded (Fig. 26). Digitus broad basally, dorso-basally straight or marginally concave to mid-length then convex to apex (much less so than in *fabricii*), ventrally straight or marginally concave in basal one-third then curving dorsally to apex (Fig. 18). Cuspis digitiform, sub-clavate apically, apex of volsellar pocket wide (Fig. 18). Penis valve dorsally sub-parallel in basal half, appearing constricted between base and median, tapering from median to apex; lateral flaps undeveloped; laterally as in Fig. 23; aedeagal apodemes strongly flared apically.

### Female

*Length*: 11-12 mm; EA 0.88-0.9; AB 2.82-3.3; BC 1.43-1.57; DE 1.83-2; DF 1-1.1 (2 specimens measured)

*Colour*: similar to male, dorsally slightly more extensive yellow colouring of mesonotum; laterally and ventrally yellow colouring greatly reduced in comparison.

*Morphology* as male with the exception of the following.

*Head*: Antenna 20-21 segmented, 7-8 without flabellum.

*Material examined*: HOLOTYPE♂: Konya, Asiat, Türk. 7.VI.1972 leg. J.Heinrich/ COLL. H.Weiffenbach/ cephalotes F. Weiffenbach det./ Megalodontes sp.n. 5 det. N.D.Springate, 1994 (LNMO); PARATYPES ♀ same data as holotype; ♀ As. Türkei Sille b. Konya 9.-17.VI.1975 leg. J. Heinrich/ cephalotes F./ COLL. H.Weiffenbach/ M. weiffenbachi (Heinrich coll.); ♀ Asiat Türkei SILLE b. Konya 8.VI.1972 leg. J.Heinrich/ cephalotes F. Weiffenbach det./ COLL. H.Weiffenbach/ Megalodontes sp.n. 5 det. N.D.Springate, 1994; 1♂ 1♀ Konya As. Türkei 9.-17.VI.1972 leg. J.Heinrich/ cephalotes F./ COLL. H.Weiffenbach; ♀ As. Türkei Meram b. Konya 9.-17.VI.1975 leg. J. Heinrich/ cephalotes F./ COLL. H.Weiffenbach (all LNMO); Other material examined: Turkey: Nigde 30 km.S. of Aksaray 25.v.1960. 3000' Guichard & Harvey B.M. 1960-364/ Megalodontes ?laticeps Knw ♀ det. R.B. Benson, 1961 (BMNH); ♀, Turkey: Kayseri, Sultanhani, 1200m. 15.vi.1962. Guichard & Harvey B.M. 1962-299 (BMNH). Genitalia of holotype dissected, mounted on card and on same pin as adult specimen. Of the two paratypes collected at Konya between 9.-17.vi.1972, the male has its right antenna missing beyond the pedicel and the female is missing its left antenna beyond the sixth segment.

*Distribution*: Turkey

*Etymology*: The species is named for the late Herbert Weiffenbach, in whose collection the type series was found.

*Comments:* The new species is related to *M. fabricii* (Leach, 1817), as defined by Springate (1995), and was described as 'Megalodontes sp.5'. Both sexes may be distinguished from those of *fabricii* by the 'cephalotes' syndrome of facial coloration ('fabricii' syndrome in *fabricii*). Further, males may be distinguished by (i) the greater AB (3-3.1 in *weiffenbachi*; 2.4-2.7 in *fabricii*) and (ii) the lesser BC (1.43-1.5 in *weiffenbachi*; 1.67-2.1 in *fabricii*) values, (iii) the complete sclerotisation of the gonostipes (incomplete in *fabricii*), (iv) the lateral form of the penis valve (compare Figs. 23 and 24) and the form of the digitus (compare Figs. 18 and 19). Further, females of *weiffenbachi* may be separated from those of *fabricii* by the coloration of (i) the scape (yellow with ochraceous to testaceous fleck on upper surface in *weiffenbachi*; ochraceous to testaceous with large black longitudinal fleck on upper surface in *fabricii*) and (ii) the pedicel (brown basally, testaceous apically in *weiffenbachi*; black in *fabricii*). One specimen from BMNH (with data 'R. von Stein Coll. B.M. 1935-271') has no locality data and is not included.

### Acknowledgements

Tom Huddleston (BMNH), Emma Artige, Jean-Yves Rasplus (both INRA), Carsten Ritzau (LNMO), Erich Diller and Stefan Schmidt (both ZSMC) are thanked for the loan of material from their collections. We are grateful to Denise Wyniger for inking the drawings. This study was funded by the Swiss National Science Foundation, Project No. 31-30864.91 (to Daniel Burckhardt and Willy Matthey).

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***Helicoconis hirtinervis* Tjeder, 1960 (Neur.: Coniopterygidae) confirmed as a British species from Scotland**

The claim to British Isles status of this small wax-fly rests solely on an unpublished record of a single female *Helicoconis* species collected from under Heather plants *Calluna vulgaris* in Sutherland during June 1993 by Peter Kirby. The specimen was sent to Colin Plant who made the tentative identification of *H. hirtinervis*, although identification of female Coniopterygidae is highly problematic. The specimen was subsequently passed by Colin to the late Martin Meinander, who confirmed both the identification and its tentative nature.



**Plate 18.** Malaise trap *in situ* at Loch na h-Innse Fraoich, West Sutherland – the capture site of *Helicoconis hirtinervis*.

It is very pleasing, therefore, to be able to now record finding a male *H. hirtinervis* – also in Sutherland. The specimen was collected in a Malaise trap which I operated from 19 – 26 June 2010 on behalf of the Culag Community Trust, at Loch na h-Innse Fraoich (Loch of the Heathery Island), Little Assynt, West Sutherland (VC 108: O. S. grid reference NC 163261) at an altitude of 73 metres ASL (Plate 18).— DAVID PRYCE, 44 Strathallan Road, Bridge of Allan, Stirling FK9 4BT (E-mail: phenes.raptor@btinternet.com).



**Splendid Brocade *Lacanobia splendens* (Hb.) (Lep.: Noctuidae) on Shetland: The first for Scotland**

I routinely set an MV light trap in my garden at Headlands, Virkie, Shetland (VC 112: O. S. grid reference HU 392124) during the period June to August each year. When I checked the trap early in the morning of 20 July I found an unfamiliar moth, which I promptly placed in a pot in the fridge. Identification was not straightforward, however, and after porusing the standard texts for several hours over the next two days I was none the wiser. In my experience such unidentified moths usually end up being a Small Square Spot *Diarsia rubi* or Ingrailed Clay *D. mendica*, both of which are very variable in Shetland. However, I froze the moth, labelled it and then boxed it ready to be sent away to Jon Clifton at the end of the season, fully expecting it to be something common. It was quite a surprise when I received an e-mail from Jon on 11 October telling me that it was in fact a Splendid Brocade *Lacanobia splendens*, the first record of this species for Scotland. Other migrant moths to Shetland trapped the same night were five Magpies *Abraxas grossulariata* (L.), three Silver Y *Autographa gamma* (L.) and a single Burnished Brass *Diachrysia chrysitis* (L.) – the latter only the seventh record for Shetland.

It would appear that this record was co-incident with an influx of Splendid Brocade into the UK during mid-July 2010, with twenty or so apparently recorded in Kent between 13 and 20 July.— PAUL HARVEY, Shetland Amenity Trust, Garthspool, Lerwick, Shetland, ZE1 0NY.

**Brown-Tail Moth *Euproctis Chrysorrhoea* (L.) outbreak in South-East England**

At the time of writing, in May 2011, it appears that there has been a sudden and unexpected outbreak of Brown-tail Moth across inland parts of south-east England in areas where they are not normally encountered. The reasons for this are unclear at present. Please ensure that all sightings are reported as soon as possible to your own county moth recorder so that this event can be properly monitored. — COLIN W. PLANT

**REDISCOVERING *MUSCHAMPIA TESSELLUM* ([HÜBNER, [1803])  
(LEP.: HESPERIIDAE) IN BULGARIA WITH ADDITIONAL NOTES ON  
*M. CRIBRELLUM* (EVERSMANN, 1814) FROM THE EASTERN  
BALKAN (STARA PLANINA) MOUNTAINS**

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**Abstract**

Records of *Muschampia tessellum* (Hb., 1803) and *M. cribrellum* (Eversmann, 1914) in Bulgaria are reviewed. *M. tessellum* is reported after an absence of over 80 years; modern records of *M. cribrellum* are also presented. New characters for separating the two closely similar species are presented.

**Keywords:** *Muschampia tessellum*, *Muschampia cribrellum*. HesperIIDae, Bulgaria.

***Muschampia tessellum***

Tschorbadjiev (1915: 22) reported *Muschampia tessellum* (as *Hesperia*) from two spots near Burgas on the Black Sea Coast – in the area between Atanasovskoto Ezero Lake and at Chengene Skele [near Poda]. He reported it as new for the whole of Southern Europe and compared his specimens to those illustrated in Spuler and Seitz. The second, and the last reliable record is that of Tuleshkov (1929: 155), who reported *Muschampia tessellum* (also as *Hesperia*) from Chengene Kale near the Bistritza River in the Alibotush (= Slavyanka) Mountains [South Pirin Mts], in June 1929. All subsequent reports for *M. tessellum* in Bulgaria (Buresch & Tuleshkov, 1929, 1930; Beshkov, 1993, 1998, Abadjiev, 2001, Abadjiev & Beshkov, 2007) follow these quoted above.

Kolev (2002) mentions a more recent and correctly identified *M. tessellum* in the collection of Al. Slivov (ex Institute of Zoology, Bulgarian Academy of Sciences, Sofia), labeled 'Belasitsa' and collected by Slivov between 1975 and 1981. According to Kolev (*op. cit.*), these data are doubtful and perhaps a result of mislabeling; this is also the opinion of the present authors. Later, Kolev (2003) listed all previous reports and illustrated the Slivov specimen. There appeared one additional record – at Kresna Gorge in south-west Bulgaria. This is another doubtful record, also a result of mislabeling; reasons are given in Kolev (2002) and are supported by the present authors. So, for more than 80 years there have been no records of *Muschampia tessellum* in Bulgaria; according to Kolev (2003) the habitat near Burgas appears to be extinct.

During a field trip to Bulgaria, arranged by Lepidopterological Society, Copenhagen, Denmark, from 26 June to 3 July 2010, KH collected in the environs of the small village-museum of Zheravna. This village is at an altitude of about 650 metres in the eastern Stara Planina mountain range, approximately 20 km north-east of Sliven Town and approx. 5 km south of Kotel. The surrounding



**Plate 19.** *Muschampia tessellum* (Hb.), male. Sliven district, 1 km NE of Zheravna Village, 700 m. alt., 04.vi.2003. Photo: Jan Fischer Rasmussen

country consists of extensively farmed and grazed areas with a vegetation of various low oak-trees and tall willows alongside streams, where *Apatura metis* may be found. The weather was not particularly fine; between the daily showers there were also longer periods with sunny weather. On 30 June, three Danish collectors went to a larger clearing in the wood, surrounded by large oaks, at an altitude of *c.* 900 m about 2 km north west of Zheravna. At the beginning the weather was overcast, but later in the day, the weather improved, and it ended up fine, with lots of butterflies on the wing. In that locality three specimens of *Muschampia tessellum* were collected, all males. Other species there included *Zygaena punctum*, *Z. carniolica*, *Pyrgus malvae*, *Erynnis tages*, *Carcharodus alceae*, *Spialia orbifer*, *Ochlodes faunus*, *Pieris mannii*, *P. napi*, *Leptidea sinapis*, *Satyrium ilicis*, *S. acaciae*, *Celastrina argiolus*, *Aricia agestis*, *Phengaris arion*, *Cyaniris semiargus*, *Cupido minimus*, *Polyommatus icarus*, *P. eroides*, *P.*



*amandus*, *Polygonia c-album*, *Nymphalis antiopa*, *N. polychloros*, *Argynnis aglaja*, *A. niobe*, *A. adippe*, *A. paphia*, *A. pandora*, *Issoria lathonia*, *Brenthis ino*, *B. hecate*, *B. daphne*, *Boloria dia*, *B. selene*, *B. euphrosyne*, *Melitaea athalia*, *M. aurelia*, *M. britomartis*, *M. trivia*, *M. didyma*, *Melanargia galathea*, *Hipparchia semele*, *H. circe*, *Kirinia roxelana*, *Esperarge climene*, *Maniola jurtina*, *Coenonympha pamphilus* and *C. arcania*.

Subsequently we became aware of a further observation of the species near Zheravna, made by a Danish photographer in 2003. So, the sum of observations of *Muschampia tessellum* near Zheravna is as follows:

Sliven district, 1 km NE of Zheravna Village, 700 m. alt., 4.vi.2003, 1 ♂ photographed by Jan Fischer (Plate 19); Sliven district, 2 km NW of Zheravna Village, 900 m. alt., 30.vi.2010, 1 ♂, Jens Lyngsoe leg., in coll. Arne Viborg, 1 ♂ leg. and in coll. ARNE VIBORG, 1 ♂, leg. and in coll. Kurt Hoejgaard.

### ***Mushampia cribrellum* (Eversmann, 1814)**

Kolev (2003) reported *M. cribrellum* as a new species for the country on the basis of two misidentified males in the collection of the Museum of Natural History in Burgas. There are some doubts about the correct labeling, because of the very unusual late flight period – 10 August 1974. *M. cribrellum* is confirmed for Bulgaria by Abadjiev & Beshkov (2007) from Chepun Hill above Dragoman, 975 metres, 42°56'53"N; 22°56'14"E, 10.vi.2007, on limestone slopes with *Artemisia alba*, *Astragalus*, *Amygdalus nana*, etc., S. Beshkov leg, 1 ♀. Dinca, Kolev & Verovnik (2010) published several more localities from Dragoman to Iskretz, all in the Sofia Region of western Bulgaria.

A single male specimen was collected on 29 June 2008 approximately 3 km north-east of Kotel, leg. and in coll. Allan B. Clausen. This new data suggests that the dubious record from near Burgas could be correct.

### **Identification**

Differences between *M. tessellum* and *M. cribrellum* are given in Kolev (2003), but we have noted additional features. In *M. cribrellum* the ground colour on the hindwing underside extends over the middle of vein 8 to the costa whilst in *M. tessellum* this is never the case and the costal part is whitish. The middle tibiae in *M. cribrellum* have thorns; in *M. tessellum* there are none. The genitalia also show significant differences.

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### A plea for research into the life history of *Prays* spp. (Lep.: Yponomeutidae)

There has long been a question over the status of the dark form of *Prays fraxinella* (Curtis). Research into the DNA by Marko Mutanen in Finland (revealed at the SEL Congress in Luxembourg, May 2011) has shown that there are two species involved here: *Prays fraxinella* (Curtis) and *Prays ruficeps* (Heinemann).

In the 1980s another very able Finnish entomologist, Jorma Kyrki (who sadly died from a brain haemorrhage aged 36) told me he thought there were two species involved, both of them double-brooded in Europe. Many in Europe accepted this opinion.

Hitherto I have resisted acceptance of this opinion until differences in the life history of the two taxa can be shown. Medvedev (1990. *Keys to the Insects of the European Part of the USSR*. IV Part 2. Leiden) illustrated differences in the wing shape and venation. Minor differences in the male genitalia were also described, but the genitalia are difficult to mount in a consistent way so that comparisons

between slides can be made. In addition Medvedev in a key to adults assigned all predominantly white specimens to one taxon, dark specimens to another, and this is not true. Of course there has been the possibility that in Britain only one taxon exists, but this is now not easy to maintain and I am forced to revise my opinion.

The commonest and best known taxon is that whose life history is described in *Moths and Butterflies of Great Britain and Ireland*, volume 3 (Harley Books); it mines the bark of shoots of ash during the winter and in the spring eats out the shoot of the tree causing the new growth to wilt. The moth is white with a black triangle on the costa, but unicolorous dark forms (f. *rustica* Haworth) occur as well as intermediates. Second generation adults occur sometimes in the autumn, but their manner of feeding has not been described.

Smaller unicolorous dark specimens occur, usually late in the season, which are the ones we suspected might be *P. ruficeps*. This year I took a unicolorous specimen on 23 April as did several others at around that date, as reported on the UK micromoths website. This was before the drooping shoots containing larvae were in evidence. These specimens must have fed in some other way, could they be the first generation specimens of *ruficeps*?

Chapman (1888. Notes on *Prays curtisellus* and *rustica*. *Entomologist* 21: 73-76), wrote a very interesting article in which he describes the rearing of both taxa, although he, with Stainton, concluded that there was only one species. He found larvae in late June feeding in galls on ash, caused by a microscopic mite, from which he bred some 200 moths, almost entirely unicolorous, and so referable to *ruficeps*. There were four or five specimens showing evidence of a dark costal triangle. He found the next generation fed also in these galls, transferring as small larvae to bark or buds as where they overwintered. These produced moths the following spring of which 5/6 were dark, the remainder white with a dark costal triangle as typical *fraxinella*. The first generation of *fraxinellus* produced 1/6 of the dark form (f. *rustica*). The second generation of *fraxinella* has not, as far as I am aware, been bred in Britain. It may be only a partial second brood.

If we assume there are two distinct species occurring in Britain, it seems that in each generation *ruficeps* appears earlier than *fraxinella*. Usually the first generation of *fraxinella* is the commoner, whereas the second generation of *ruficeps* is commoner.

No food plant other than ash has been recorded in Britain. It is interesting to see what Medvedev says of the life history. Of *fraxinella* he says 'Larvae feed on buds, branches, and leaves of ash and alder; initially mine leaves, then live on branches in silky galleries; September – May.' Of *ruficeps* he says 'Larvae live in buds and leaves of oak, ash, maple, and willow; spring to autumn.'

It would be good if field workers in Britain could be aware of possible early stages of these taxa without having to resort to difficult morphometrics or DNA sequencing. — DAVID J. L. AGASSIZ, The Garden House, Stafford Place, Weston super Mare, Somerset BS23 2QZ.



## BOOK REVIEWS

### ***Porritt's Lists: missing information***

In the last issue of this journal we reviewed *Porritt's Lists*, a book about Yorkshire's historical Lepidoptera records. Unfortunately, we were unable at the time to include with that review information concerning availability. We are now able to advise readers that this excellent publication may be obtained from Butterfly Conservation, c/o Frost, 10 Chellsway, Withernsea, HU19 2EN at a cost of £32 (inclusive of postage and packaging. Please make any cheques payable to 'Butterfly Conservation'.

### ***British and Irish moths: an illustrated guide to selected difficult species: an important correction***

The authors have advised us that within the pages of this important reference work, a small but significant error has occurred. Figure 48, on page 41, purporting to show the female genitalia of the Satin Beauty *Deileptenia ribeata* is incorrect and, as a consequence, the key on page 40 is also incorrect. A corrected version of pages 40 and 41 is available via [http://www.mothscount.org/text/104/guide\\_to\\_difficult\\_species.html](http://www.mothscount.org/text/104/guide_to_difficult_species.html). If you do not have Internet access, please contact Butterfly Conservation by telephone on 01929 400209.

## CALL FOR CONTRIBUTIONS

### **BROWNFIELD MOTH SPECIAL – SECOND CALL FOR CONTRIBUTIONS**

The high value of brownfield sites (especially post-industrial sites) for invertebrates is well known, but whilst we know quite a bit about bees and wasps, and to a lesser extent beetles, there is little published on the value of brownfield habitats for moths. This journal wishes to redress this imbalance with a dedicated special issue later this year. **We therefore invite both short Notes and longer Papers on any area of interaction between moths and brownfield sites.**

There is no single brownfield habitat type – they range from post-industrial sites in the East Thames Corridor to urban playing fields in Scotland, motorway embankments in urban areas, roundabouts, margins of car parks and many other places. Anything to do with 'living roofs' is especially welcomed as are 'unusual aspects' (e.g., moths recorded in pitfall traps). For the present exercise 'normal' gardens are excluded, but a 'non-garden' trap site in a heavily urban area with no surrounding gardens might qualify, as will traps on balconies or the roofs of tower blocks. Use your judgement!

Unlimited black and white photos welcomed. Colour photos wanted if important – habitat shots take priority over species. Please e-mail contributions to the Editor on [cpauk1@ntlworld.com](mailto:cpauk1@ntlworld.com) or contact him if you wish to discuss.



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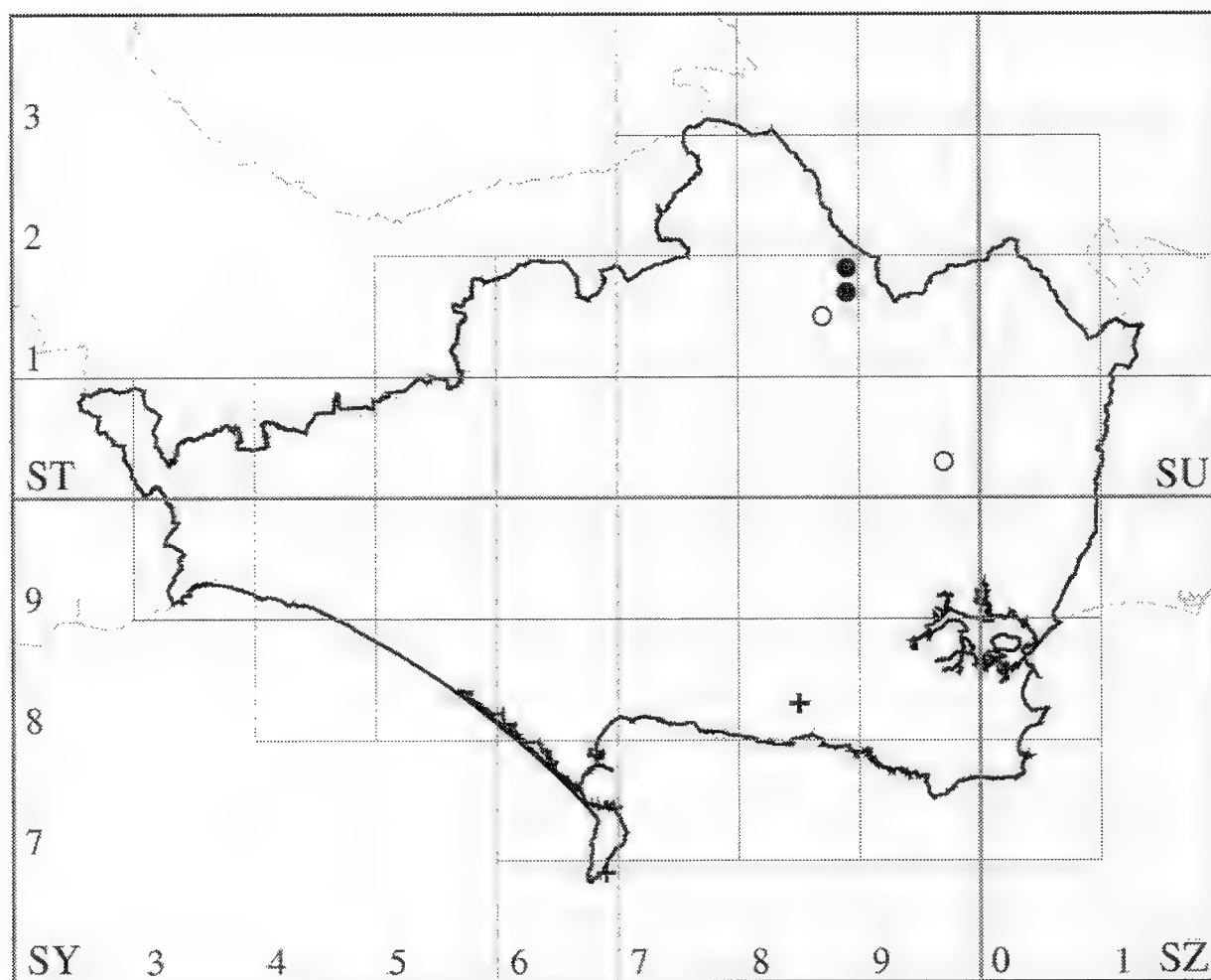
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### Possible new sites for *Trichopteryx polycommata* ([D. & S.] Barred Tooth-striped (Lep.: Geometridae) in Dorset (VC9)

A single *Trichopteryx polycommata*, Barred Tooth-striped, was recorded at my light on the night of 25.iii.2009 in Butterfly Conservation's moth trap in East Lulworth (O.S. grid reference SY 88: VC 9 – Dorset), by Laura McLellan; the identification was confirmed by Mark Parsons and myself. This individual is well away from the nearest known colony to the north over 30km in distance from the trap site in grid square ST 81.

*T. polycommata* is a Nationally Scarce (Notable A) species that is also listed in the UK Biodiversity Action Plan as a Priority species. East Dorset is the apparent western edge of its range in the south of England, which includes the North Hampshire/Wiltshire border area, the Sussex coast and the south coast of Kent. Fig.1 shows the known distribution of *T. polycommata* before the 2009 record – open circles are records to 1999 and filled circles are records since 2000. crosses depict records in 2009 and 2011 (SY 88) and 2011 (SY 66).



**Figure 1.** Distribution of Barred Tooth-striped in Dorset (VC9).

Not particularly known as a primary immigrant, it was considered there may be an unrecorded colony along the nearby coast between Lulworth Cove and Durdle Door where a large growth of the foodplant *Ligustrum vulgare*, Wild Privet, is known and this individual may have wandered from this site. Mark Parsons and I spent an evening in less than suitable weather conditions looking for adults during dusk as soon as was convenient during the week of capture, but no evidence of the moth was found at the site after a couple of hours searching. Another survey towards the end of April 2011 of Durdle Door on the afternoon of 28.iv.2011 by

Mark Parsons, Martin Warren and myself also gave negative results. There have been no subsequent records at the Butterfly Conservation trap in East Lulworth.

My own garden moth trap has been run since 2008 in an adjacent 1 km square, previously having run in the same 1 km square as the Butterfly Conservation trap from 2006 to 2008. On 23.iii.2011, I found a single, worn male *T. polycommata* resting on a concrete standing away from the trap. I do have small growth of *L. vulgare* and *Fraxinus excelsior* Ash, both potential larval foodplants, close to my moth trap so initial thoughts turned to the possibility there may be a small colony in the immediate area. The moth was unceremoniously marked and released away from the trap site. This same individual reappeared on two further occasions on the side of my shed, on 26.iii.2011 and 27.iii.2011; no other individuals were recorded either at light or dusking over several evenings with a torch. I also searched for larvae over the Easter Bank Holiday and May Bank Holiday with negative results.

Curiously, another *T. polycommata* turned up at my light on 28.iii.2011 at the Portland Bird Observatory in grid square SY 66 (see [www.portlandbirdobs.org.uk](http://www.portlandbirdobs.org.uk)) prompting Martin Cade to comment on the website '...unfortunately only a rather miserable specimen of what's an unexpected addition to the island moth list'. The website notes no migrant activity for the week prior to capture and my own records show no migrant activity for nearly six weeks.

Only Garden Privet *Ligustrum ovalifolium* grows near to the bird observatory, but quite a bit of *L. vulgare* grows elsewhere on the Isle of Portland; it is doubtful anyone has seriously looked for this species here (M. Cade *pers. comm.*). These 2011 records of *T. polycommata* during a period of no known immigrant activity have rekindled interest in the possibility that undiscovered colonies of this species along the Jurassic coast of Dorset may exist. Further investigation is required to establish whether this is the case. Recorders visiting the Dorset coast and the Isle of Portland are encouraged to look for *T. polycommata* in the vicinity of the primary foodplant *L. vulgare*; records of larval stages in particular being useful and most satisfactory. Please do remember to forward your records, with evidence as necessary, to me (as Dorset County Recorder)!

My sincere thanks go to Martin Cade, Laura McLellan, Mark Parsons and Colin W. Plant for their assistance with this article. I would also like to thank The Lulworth Estate for their permission to perform essential fieldwork – L. J. HILL, 48 East Lodge, East Lulworth, Wareham, Dorset BH20 5QL.

### ***Epiblema tetragonana* (Stephens) (Lep.: Tortricidae) reared from Dog-rose *Rosa canina* in West Sutherland**

On 15 May 2011 I found a larva in spun leaves of Dog-rose *Rosa canina* near Duartmore Burn, West Sutherland (VC 108). I was surprised to find that this was *Epiblema tetragonana* (Stephens) when the moth emerged on 10 June 2011, not only because this appears to be a scarce and declining species according to Clifton & Wheeler (2011. *Bird-dropping Tortrix moths of the British Isles*, page 52) but because the habitat was not open woodland or hedgerow as given by them, but a fairly steep, unsheltered, heather-dominated burnside.



Although the foodplant given by Clifton & Wheeler is Wild Rose (*Rosa* sp.), the larva appears to be undescribed according to Razowski (2003. *Tortricidae (Lepidoptera) of Europe*. Volume 2, Olethreutinae, page 102). Unfortunately I failed to make a description but my recollection is that the larva resembled those of *Epiblema rosaecolana* and *E. roborana*.

I am grateful to Dr J. R. Langmaid for confirming that this is the first known occurrence in VC 108. It is also one of the few records from the western vice-counties of Scotland and is the most northerly in the British Isles. — R. J. HECKFORD, 67 Newnham Road, Plympton, Plymouth, Devon PL7 4AW.

### **Marbled pug *Eupithecia irriguata* (Hb.) (Lep.: Geometridae) in Cumbria: A new county resident**

On 27 April 2010, SC found a Marbled Pug on the outside of his 'Skinner trap'. The site was his garden situated on the edge of Crossrigg estate near Morland, Cumbria where he had trapped for the last six years. The moth was so well outside its normal range that he felt obliged to share a photograph of it with others, who agreed with the identification.

The find was followed up by a visit to the Crossrigg estate by BH with a view to further trapping in the 2011 season. The estate contains a long avenue of Pedunculate Oaks *Quercus robur*, which seemed the most likely source of the moth. The flight season is late April into May and the first opportunity to trap during settled weather was on 6 May 2011, when it was 13°C, overcast with thunder threatening and only a light wind. Together with Martin Tordoff, we set up four sheet traps from two generators. Several pugs were attracted – in all 12 Brindled Pug *Eupithecia abbreviata* Steph., four Oak-tree Pug *Eupithecia dodoneata* Guen. and three Dwarf Pug *Eupithecia tantillaria* Boisd. At 23.00 hours one Marbled Pug arrived at a sheet placed under the middle of the line of oaks; the identification was confirmed by dissection, which revealed it to be a female.

The Marbled Pug is a nationally scarce species associated with mature Pedunculate Oak *Quercus robur*, being found regularly only in the New Forest area. There are scattered records since 2000 from many southern counties, especially Devon, and a few from mid Wales shown in Hill et al (2010. *Provisional Atlas of UK's larger moths*. Butterfly Conservation). The National Biodiversity Network Gateway maps for Marbled Pug shows records from Durham and Stirlingshire, but correspondence with the present county macro moth recorders suggests that these records cannot be substantiated.

It seems therefore that our specimens represent an isolated colony considerably north of the known distribution. This avenue of Pedunculate Oaks at Crossrigg may have been planted several centuries ago and is probably a feature of other private estates throughout the country. Such sites are probably rarely trapped so it is possible there are other as yet unrecorded colonies of this moth outside of its known range.

We are most grateful for the information provided by county recorders of John Knowler (Stirlingshire) and Keith Dover (Durham). — STUART COLGATE, 9 Highwood Crescent, Carlisle, Cumbria CA1 3LF & BRIAN HANCOCK, 21 Yealand Road, Yealand Conyers, Lancashire LA5 9SG.

**Man bitten by *Cardiastethus fasciiventris* (Garbiglietti) (Hem., Anthocoridae)**

On 5 September 2007 I was beating Lawson Cypress *Chamaecyparis lawsoniana* in University Parks, Oxford (grid reference SP 514072), looking for the lygaeid bug *Orsillus depressus* (Mulsant & Rey), which I had recorded in the park for the first time the previous summer. As I was searching through a small heap of dead tree material that had resulted from one of my beats, I felt a sudden, sharp, intense aching pain on the outside of my left thumb. The sensation was quite unlike the sting of a bee or wasp, and I suspected that I had been bitten by something, perhaps a spider. Once I had regained my composure, following the loud howl I had broadcast across the park, I began to search, gingerly, for my assailant. Alas, I found nothing of any size, apart from a large number of the very small, orange-brown anthocorid bug *Cardiastethus fasciiventris* (Garbiglietti). I reasoned again that it was probably a spider, which had escaped unnoticed during my agonised recoil. Later that day I complained to Mr Darren Mann of the Hope Department of Entomology, Oxford University Museum, adjacent to the park. He dismissed my spider hypothesis, and instead suggested an anthocorid bug as being the culprit. I was forced to admit that such a bug was present in good numbers, and little else, but I remained sceptical.

There the matter would have rested, had I not recently been reading some back issues of the *Entomologist's Monthly Magazine*, wherein I discovered three separate notes all reporting people being bitten by *Anthocoris nemorum* (L.), another anthocorid bug (Verdcourt, Atkinson and Smith, 1990, 126: 96). I then turned to my copy of Southwood and Leston (1959, *Land and Water Bugs of the British Isles*, Warne, London) and found a report of the anthocorid bug *Lyctocoris campestris* (Fabricius) having the same nefarious habit.

I write this note not only to add to the existing warnings about this group of insects, but to enquire whether, on the subject of man-biting anthocorid bugs, any readers would care to add to my growing list of species. Mug shots of the villain can be found by searching Flickr (<http://www.flickr.com>). — ROB RYAN, 38 St John Street, Oxford, OX1 2LH (E-mail: [notnowcato@ymail.com](mailto:notnowcato@ymail.com)).

**EDITORIAL COMMENT:** I cannot add to the anthocorid inventory, but I was once 'bitten' by *Reduvius personatus* (L.) (Hem.: Reduviidae) as I relaxed on my settee with the patio doors open and the lights on one summer several years ago (is this possibly the laziest form of moth trapping known to man?). Those familiar with this bug will know that it is large enough, justifiably or not, to cause concern and I suspect that Bob's loud howl was probably a bit 'girlie' in comparison with the sudden flow of expletives that issued from the editorial mouth on this particular occasion! I had the last laugh, of course – the specimen is now in my collection.

### The yellow ab. *lutescens* Stdgr. of the Jersey Tiger *Euplagia quadripunctaria* (Poda) (Lep.: Arctiidae) on Guernsey

The Jersey Tiger was first recorded in the Channel Islands in 1830 and since then has been seen regularly either flying in the daytime or, more recently, as a frequent visitor to light traps. More than a century ago, the Guernsey amateur entomologist W. A. Luff, noted that 'this splendid moth is very abundant, especially in Sark' (1889. *Rep. Trans. Guernsey Soc. nat. Sci.* 1(2): 155-174) and he later commented that it was also 'very common' on Jersey (1908. *Rep. Trans. Guernsey Soc. nat. Sci.* 5(4): 482-511). Over the years this situation has continued with the moth almost always being described as 'abundant' or 'very common' in local entomological reports. However, in more recent times, on Guernsey at least, this situation has changed as its numbers have declined noticeably. For example, in PDMC's garden the totals seen at light for the seasons 2008 and 2010 were 45 and 58 respectively whereas on one night alone in 1997 a total of 145 specimens were attracted to the same 125W MV Robinson trap (and there had been 126 the night before). MPL has also recorded a similar decline in numbers and in 2010 just four examples were attracted to his 125W MV Skinner trap. This situation seems at odds with that on the British mainland where the species is known to be increasing its range, on which basis it was selected as one of the target species for National Moth Night 2007 when a total of 73 were attracted to a garden trap on the Isle of Wight, and when it was recorded as far outside of its traditional south-west stronghold as Buckinghamshire (Tunmore & Hill, 2008. *Atropos* 34: 42-61).

The black and white stripes of the forewing vary little, but the hindwing, typically bright red, also occurs in a yellow form which has been named ab. *lutescens*. Between the red and yellow forms various shades of orange are occasionally seen but ab. *lutescens* is quite distinctive and obvious when encountered. The yellow form has been noted on all the Channel Islands, but the actual proportion of red to yellow within the population seems to vary from island to island. Luff commented that the yellow form was 'much commoner in Sark than Guernsey', although he gave no indication of what percentage were ab. *lutescens*. David Wedd found that on Jersey 'the yellow form, ab. *lutescens*, is easily encountered but probably comprises only 5% of the population' (1999. *Atropos* 7: 47-50) while on Alderney in 2007 he found the moth to be an 'abundant resident with one in four being the yellow form *lutescens*' (Austin, 2008. *Moths and Butterflies of Guernsey 2007*. La Société Guernesaise). In the part of Normandy nearest the Channel Islands, which at its closest point is barely nine miles from Alderney, the Jersey Tiger is 'very common everywhere. The yellow form *lutescens* is as common as the typical red form' (Quinette, Lepertel & Guérard, 2004. *Inventaire des Macrolépidoptères de La Manche*. Privately published).

In an attempt to determine the proportion of the yellow form present on Guernsey, in 2006 PDMC started to make a note of the colour of the hindwing of every Jersey Tiger coming to his trap and on mentioning this recently to MPL,

discovered that he had been doing the same since 2001. The totals are given below (MPL having moved house in 2004):

Locality	Year	Number with red hindwing	Number with yellow hindwing
Site 1 (MPL)	2001 - 2003	86	2
Site 2 (MPL)	2004 - 2010	230	4
Site 3 (PDMC)	2006 - 2010	465	6
	<b>Total</b>	<b>781</b>	<b>12</b>

It can be seen that of the 793 specimens examined in our study, 781 were of the typical form and 12 were of the yellow form and we conclude, therefore, that the proportion of ab. *lutescens* in the Guernsey population of the Jersey Tiger is 12 in 793 or 1.5%.

It is also interesting to note that the proportion of ab. *lutescens* in the various island populations appears to decrease westwards with distance from the French mainland. — P. D. M. COSTEN, La Broderie, La Claire Mare, St. Peters, Guernsey, GY7 9QA (e-mail: pcosten@guernsey.net) & M. P. LAWLOR, St. Etienne, Les Effards, St. Sampsons, Guernsey, GY2 4YN (e-mail: mplawlor@cwgsy.net).

### Notes on Light Orange Underwing *Archiearis notha* (Hb.) (Lep.: Geometridae)

With reference to the recent article on Orange Underwings (*Antea*, 93-95) I can report the somewhat different experiences I had with the above species. Rather than flying high amongst the trees I found the moth flying at more or less head height or resting on the woodland floor.

Over two days at Rushbeds, a local Berks Bucks and Oxon Wildlife Trust (BBOWT) reserve in the Vale of Aylesbury near Brill, I netted eight specimens: on 7 April 2011 between 11.30 and 12.45 hours, one male and two females and the next day between 10.20 and 12.20 hours, two males and three females. Both days were hot and sunny for this time of year. Grid references were SP 670154 and 667156 respectively. The males had characteristic bipectinate (comb-like) antennae and all had the diagnostic hindwing underside with continuous dark border.

On both days the moths were active and flying in the morning with an extremely weak flight making the insects most vulnerable. This would suggest the orange colouration indicates high toxicity to potential predators. As expected the larval food-plant *Populus tremula*, Aspen, is abundant in these woods but over several hours of watching I did not observe treetop flying. — ROGER KEMP, Kemp's Farm, Chapel Road, Ford, Aylesbury, Bucks HP17 8XG (E-mail: kemps@gotadsl.co.uk).



**The *hauderi* form of *Caloptilia semifascia* (Haw.) in the London area (Lep.: Gracillariidae)**

Langmaid, Sattler & Lopez-Vaamonde (2011. *Nota Lepidopterologica* 33(2): 191 – 197) provided convincing evidence that all British specimens of *Calybites hauderi* (Rebel) are not that species, but the first brood of bivoltine *Caloptilia semifascia* (Haworth). *C. hauderi* was formally removed from the British list and its occurrence in Belgium was questioned. It was further reported that whilst *C. semifascia* is normally univoltine in the British Isles, bivoltine populations are now spreading in southern counties. With this latter point in mind it seems worth placing on record two London area reports of '*hauderi*' in 2011.

On 13 June 2011, Marcel Ashby and myself met up briefly at the East Ham Nature Reserve in eastern London (O.S. grid reference TQ 4282; VC 18 – South Essex), after working in nearby separate places. I was especially keen to sample insects in the woodland area, because the trees that form this unit, now around 5 or 6 metres tall, had been planted by myself as 12 inch "whips", with help from local residents, in the early 1980s. In a small clearing, a large number of '*hauderi*' were found flying beneath the dappled shade of a Field Maple *Acer campestre* at a height of 1.5 metres above the ground, at around 14.00 hours. At the time I completely forgot about the Langmaid *et al* paper and my momentary *lapsus* was not helped by the knowledge that I had bought the 'whips' from a tree nursery only a few miles from the known locality of '*hauderi*'. I reported the discovery to John Langmaid, who very tactfully brought me back to earth by attaching a copy of his paper to the e-mail. I have to confess that not only did this appear in a journal which features in my private library, but I had in fact read it only two months earlier!

In Essex the species is said to be a rare resident by Goodey (2004. *The Moths of Essex*. Lopinga Books) who gives the most recent record for *semifascia* as that taken in Stour Wood on 18 July 2003 by Jon Clifton. Since 2004, there are just three further records in the Essex Moth Database, which is maintained by the Essex Field Club – all in 2010 at Foulness (C. Lewis), Prittlewell (N. Gash) and Old Hall Marshes (A. Cook). All these sites are in the far east of the county in the coastal region, nowhere near the London area, and so could perhaps represent immigrant examples?

The second report of '*hauderi*' came from western London, when Geoff Geiger caught an example of an adult in a light trap in his garden at Wembley (TQ 1884; VC 21 – Middlesex) on 27 June 2011 and sent it to me for confirmation of his correct identification. Although Middlesex is a seriously under-worked county for micros, there is nevertheless a reasonably complete inventory of species in Plant (2002. A provisional list of the microlepidoptera of Middlesex (vice-county 21) *London Naturalist* 81: 123-186), which has been updated by Plant (2004. *London Naturalist* 83: 107-109) and Plant & Terry (2007. *London Naturalist* 86: 87-93). Using these three references, and a draft of further additions that Rachel Terry and

I have submitted for publication at the end of 2011, it appears that the Wembley record represents a first for *Caloptilia semifascia* in Middlesex.

It seems strange that *Caloptilia semifascia* should suddenly appear at two widely spaced localities in the London area; it is clearly a resident breeding species at East Ham and perhaps is also so in Wembley, although there was significant immigrant activity amongst moths in south-east England on and around 27 June 2011. It seems equally unusual that in both cases it should be the rare first brood 'hauderi' of a moth that is normally univoltine in Britain. This latter lends credence to the statement by Langmaid et al (*op. cit.*) that bivoltine populations of *C. semifascia* are now spreading in southern counties; regrettably it offers little in the way of an explanation for this phenomenon.

I am grateful to Geoff Geiger for permission to use his record in this Note and to Peter Harvey who currently maintains the Essex Moth Database for the Essex Field Club.— COLIN W. PLANT, 14 West Road, Bishops Stortford, Hertfordshire CM23 3QP (E-mail: cpauk1@ntlworld.com).

### ***Stigmella dryadella* (Hofmann) (Lep.: Nepticulidae) larvae in April and May**

On 20 April 2011 we found tenanted and vacated mines of *Stigmella dryadella* (Hofmann) as well as one cocoon on Mountain Avens *Dryas octopetala* on the coast at Smoo, West Sutherland (VC 108) and tenanted and vacated mines a little inland and about 3 km to the west at Loch Borrallie, also in West Sutherland. Moths emerged in mid May. We failed to find any evidence of mines the following day at Invernaver, West Sutherland which is about 12 km to the east of Smoo even though this has a larger population of the foodplant. Significantly, Pelham-Clinton (1967. *Parornix alpicola* (Wocke) (Gracillariidae) and other Lepidoptera feeding on *Dryas octopetala* L. in Scotland. *Ent. Gaz.* 18: 69-72) had also noted the absence of this species from there. RJH also found tenanted and vacated mines north of Rassal, Wester Ross (VC 105) on 16 May 2011.

Emmet (1976. *The Moths and Butterflies of Great Britain and Ireland* 1: 219-220) states that *Stigmella dryadella* is bivoltine with adults in late May and again from late August to September and larvae feeding in July and again in September to October. As far as we are aware there has been no British record since that publication of larvae being found earlier than July. Nevertheless, there appears to be an earlier record of mines being found in April which seems to have been overlooked. Every year from 1961 and 1965 J. D. Bradley, R. M. Mere and E. C. Pelham-Clinton visited the Burren, Co. Clare, Ireland to investigate the Lepidoptera, with S. Knill-Jones in later years. In September 1963 tenanted mines of *Stigmella* (then *Nepticula*) *dryadella* were found along the lower slopes of Doughbranneen above the Caher River, and two moths were reared (Mere, 1966. *Lepidoptera in Ireland, 1963, 1964 and 1965. Part I – Narrative. Ent. Gaz.* 17: 163-167). This was the first record from the British Isles. Mere's paper states that

as one or more of that group had been to the Burren in every month from May to September, April was chosen for the 1965 visit. He gives a summary of interesting records made in April 1965 but does not mention *Stigmella dryadella*. The paper was in two parts and the second part, written by E. C. Pelham-Clinton, who was a meticulous recorder, first listed all the Lepidoptera observed in the Burren in 1963-1965, then those in other areas of Ireland (1966. Lepidoptera in Ireland, 1963, 1964 and 1965. Part II – List of Lepidoptera recorded. *Ent. Gaz.* 17: 167-182). In the Burren list the entry for *Stigmella dryadella* reads: 'mines on *Dryas octopetala*, 1963, 1965; new to British Isles'. It is clear from Mere's account that the visit to the Burren in 1965 was from 15-24 April, and so the mines must have been found during that period. — Miss S. D. BEAVAN, The Hayes, Zeal Monachorum, Devon EX17 6DF and R. J. HECKFORD, 67 Newnham Road, Plympton, Plymouth, Devon PL7 4AW.

### **The use of a car vacuum cleaner for collecting Hemiptera-Heteroptera from mosses**

There are a number of species of Hemiptera-Heteroptera that are specifically associated with mosses (Bryophyta), and many others that use these plants as a refuge. Manual searching of this pabulum can be tedious and unproductive, and I have long been tempted to invest in a suction sampler for more efficient collection. Alas, the devices commonly used for this work, whether professional bespoke tools or modified gardening equipment, are petrol-driven, noisy, heavy and bulky (Barclay, in Cooter & Barclay, 2006, *A Coleopterist's Handbook*, 4th Ed., pp. 215-217), and I was not inclined to use them. I wanted something compact and lightweight, that could be carried permanently in my ruck sack, to be deployed without prior planning, whenever the occasion arose.

So, last year I took to the habit of taking a car vacuum cleaner with me on collecting trips, and I have been surprised how useful this simple device has proven to be. Most of the bugs found have been either lacebugs (Tingidae) or groundbugs (Lygaeidae), but there have also been good numbers of minute bugs (Microphysidae) and stiltbugs (Berytidae), with occasional shieldbugs (Pentatomidae and Thyreocoridae) and capsid bugs (Miridae). Full details of these records will be included in future publications, following further field work, but a brief summary of my finds is as follows.

By far the commonest bug found was *Acalypta parvula* (Fallén) (Tingidae), with more individuals captured than of all the other species put together. The large numbers often encountered was a great surprise given the scarcity of my captures by sweeping. I added several new sites to my records of *Agramma laetum* (Fallén) (Tingidae), and made my very first records of *Acalypta carinata* (Panzer) and *Campylosteira verna* (Fallén) (Tingidae). The capture of a Negro Bug, *Thyreocoris scarabaeoides* (Linnaeus) (Thyreocoridae), was very welcome, as it

was five years since I last took this species; and a specimen of the seldom encountered *Deraeocoris scutellaris* (Fabricius) (Miridae) was very much the catch of the season. A brachypterous (short winged) specimen of *Plinthisus brevipennis* (Latreille) (Lygaeidae) was interesting, as I had previously only encountered the macropterous (fully winged) form when sweeping. The most unexpected capture, however, was a dead *Gastrodes abietum* Bergroff (Lygaeidae) under a spruce tree (*Picea* sp.). This insect lives in the cones of the tree, which are almost always on branches too high to reach from the ground, making this a difficult species to record. I had often stared longingly upwards, wishing for a cherry picker (or a shotgun), but now I have a more practical strategy.

The vacuum cleaner was purchased from Halfords (item number 942268) in May 2010 for £30 and runs off a 12 volt (10 x 1.2 volt, 1300mAh) rechargeable battery. A charger is included, and fully recharges the battery overnight. There are attachments for getting into tricky places, and although I thought these would be useful for searching tree stumps (etc.), I have made little use of them. There is no need for any modification of the appliance for field use, as the bag is accessible, and the contents are easily tipped into a sweep net for searching and/or into a sandwich box for microscopic examination at home. The device has proven very durable and reliable, and the only disadvantage so far is the short battery life, making it appropriate only for the casual use I originally intended. An alternative model, with longer-lasting or replaceable batteries would reduce this problem and allow more sustained use.

It is very unlikely that I am the only person who has been experimenting with compact suction samplers of this kind, and I would therefore be very interested to learn from the experiences of other entomologists, in particular if they have solved the problem of limited power source.— ROB RYAN, 38 St John Street, Oxford, OX1 2LH (E-mail: notnowcato@ymail.com).

**EDITORIAL COMMENT:** I have occasionally used a similar portable suction device myself, and found it extremely useful for extracting spiders and other invertebrates from crevices in the rocks of quarries and similar sites. One of the main advantages of these smaller devices is that they seem not to harm the animals collected and I have seen them in use in parts of Eastern Europe to collect Lepidoptera larvae from cryptic micro-habitats such as lichen-encrusted tree bark. As for recharging, I purchased an 'inverter' that plugs directly into the car cigarette lighter socket, so providing a mains output for the charger. — COLIN W. PLANT



**DESERTOBIA ANKERARIA (STAUDINGER, 1861) (LEP.:  
GEOMETRIDAE): A NEW GENUS AND SPECIES FOR THE  
BULGARIAN FAUNA**

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### Abstract

*Desertobia ankeraria* (Staudinger, 1861) is reported as a new for Bulgaria from two localities in the south-west – at the Kresna Gorge and the volcanic hill of Kozhouh near Petrich. Brushed male genitalia of *Desertobia ankeraria* and the species with which it can be mistaken are illustrated. Male antennae of *Desertobia ankeraria* and similar species exhibit significant differences and are also illustrated.

**Keywords:** *Desertobia ankeraria*, Geometridae, Bulgaria, Natura 2000, male genitalia, male antennae.

### Background

Staudinger (1861) described one new Geometridae species from Pest [Budapest, Hungary], investigating two male specimens collected on 13 April 1859. He named the new species *ankeraria* after the name of its collector L. Anker and placed it in the genus *Hibernia*. Staudinger compared the new species to *Hibernia progemma* (Hb., [1799]) (= *Phigaliohybernia marginaria* (Fabr., 1777) and to *Hibernia* (= *Erannis*) *defoliaria* (Cl., 1759). He found, but did not illustrate, significant differences in the wing pattern and male antennae between *ankeraria* and other taxa. According to him, male antennae are similar to these of *defoliaria*, but the lamellae are shorter and the tufts narrower without widening at their bases. In Vojnits (1980) *ankeraria* is included as a member of genus *Agriopsis*. The antenna illustrated for *ankeraria* in this work (1980: 88, fig. 74 B) is very similar to the antennae of the other closely related species regarded here and we are of the opinion that this is an error. Leraut (2009) illustrated the male genitalia of *ankeraria* and based on this correctly placed it to genus *Desertobia* Viidalepp, 1979. He also illustrated male genitalia of the other species with which *D. ankeraria* can be confused and concluded that *marginaria* Fabr., 1777 and *aurantiaria* Hb., 1799 belong to genus *Phigaliohybernia* Inoue, 1942. The differences in the male genitalia are so clear that they can be seen without dissection, just by brushing the abdominal end.

### Recognition

*Desertobia ankeraria* is a pale and easy to misidentify moth with wingspan in males 31-40mm. In males, the head, thorax and forewings are straw yellow slightly powdered with dark scales. Forewings upper side (**Plate 20, Fig. 1**) with arched,

sometime invisible antemedian line. Postmedian line dark with two turns of almost 90° - first to the outer margin after vein M1, and second towards the discal spot which it almost touches. Discal spot dark and narrow. Hindwings dirty-white, powdered with dark scales. Fringes a little bit darker than the ground colour. Underside (**Plate 21, Fig. 1**) straw yellow with distinct discal spots both on all four wings, but with almost indistinct transverse lines. Male antennae (Fig. 1a) are slightly bipectinate, lamellae short and fine, almost indistinct, forming tufts of fine hair, not a real pecten. The structure of the antennae is the most reliable external feature to separate *D. ankeraria* from the others of similar appearance. Other distinguishing features include the structure of the male genital armature, which can be seen after brushing the terminal abdominal segments. In *D. ankeraria* (Fig 2 a, c) the valva is short and rounded with a long harpe and the uncus is oval. *D. ankeraria* is on the wing from February to April. Females are brownish and wingless.

### Similar species

*Desertobia ankeraria* can be confused with *Erannis defoliaria* (Cl., 1759), *Phigaliohybernia aurantiaria* (Hb., 1799) and *Phigaliohybernia marginaria* (Fabr., 1777)

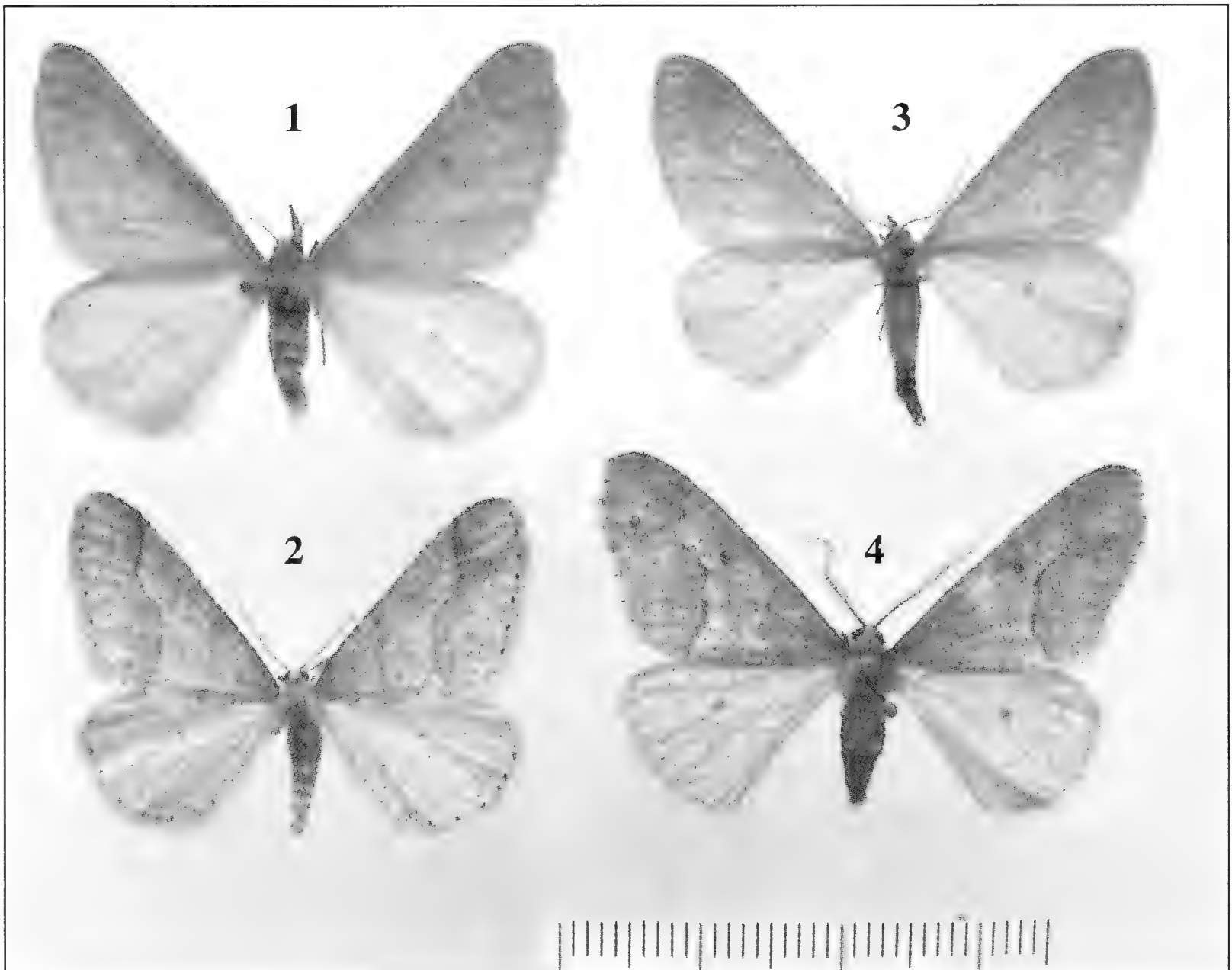
*Erannis defoliaria* (**Plate 20, Fig. 4 & Plate 21, Fig. 4**) is much larger (wingspan 35-45mm) and is darker, with the postmedian line arched in its lower part and the discal spot dot-like. The male antennae (Fig. 1c) with almost two-times larger pecten. In the male genitalia (Figs 2b, d) valva not rounded, harps short and with hair, uncus pointed. A late autumn/winter species, its flight period is from late October to January.

*Phigaliohybernia aurantiaria* (**Plate 20, Fig. 3 & Plate 21, Fig. 3**) is a very variable species. Forms that come very close to *ankeraria* are best separated by the antennae (Fig. 1b) with almost 2-times longer pecten and by the genitalia, with valva with pointed at apex and without harps and the uncus pointed (Figs 2e, f). November and December.

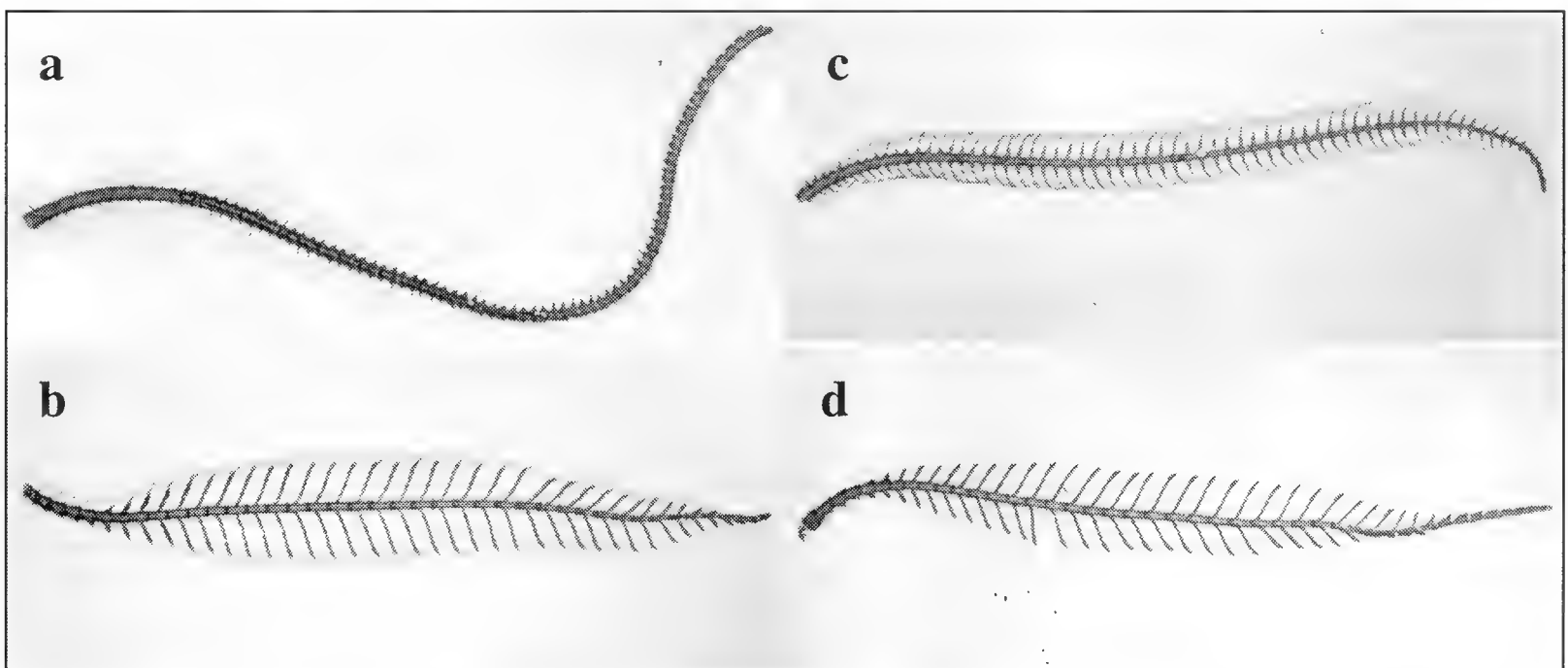
*Phigaliohybernia marginaria* is more variegated (**Plate 20, Fig. 2 & Plate 21, Fig. 2**) and has black marginal dots on its forewings and hindwings. The hindwings have with distinct postmedian line; male antennae (Fig. 1d) with almost two-times longer pecten, genitalia with valva pointed at apex, without harps and with pointed uncus (Figs 2 g, h). A winter to early spring species, its flight period is January to April.

*D. ankeraria* could also perhaps be confused with *Alsophila aceraria* ([D. & S.], 1775) (**Plate 22**). However, in this species the lines on the forewings are dentate and parallel each other, the postmedial line lacking any curves and the hindwings are white. This is a winter species flying from November to early February.

Females of all the listed similar species are also wingless or brachypterous.

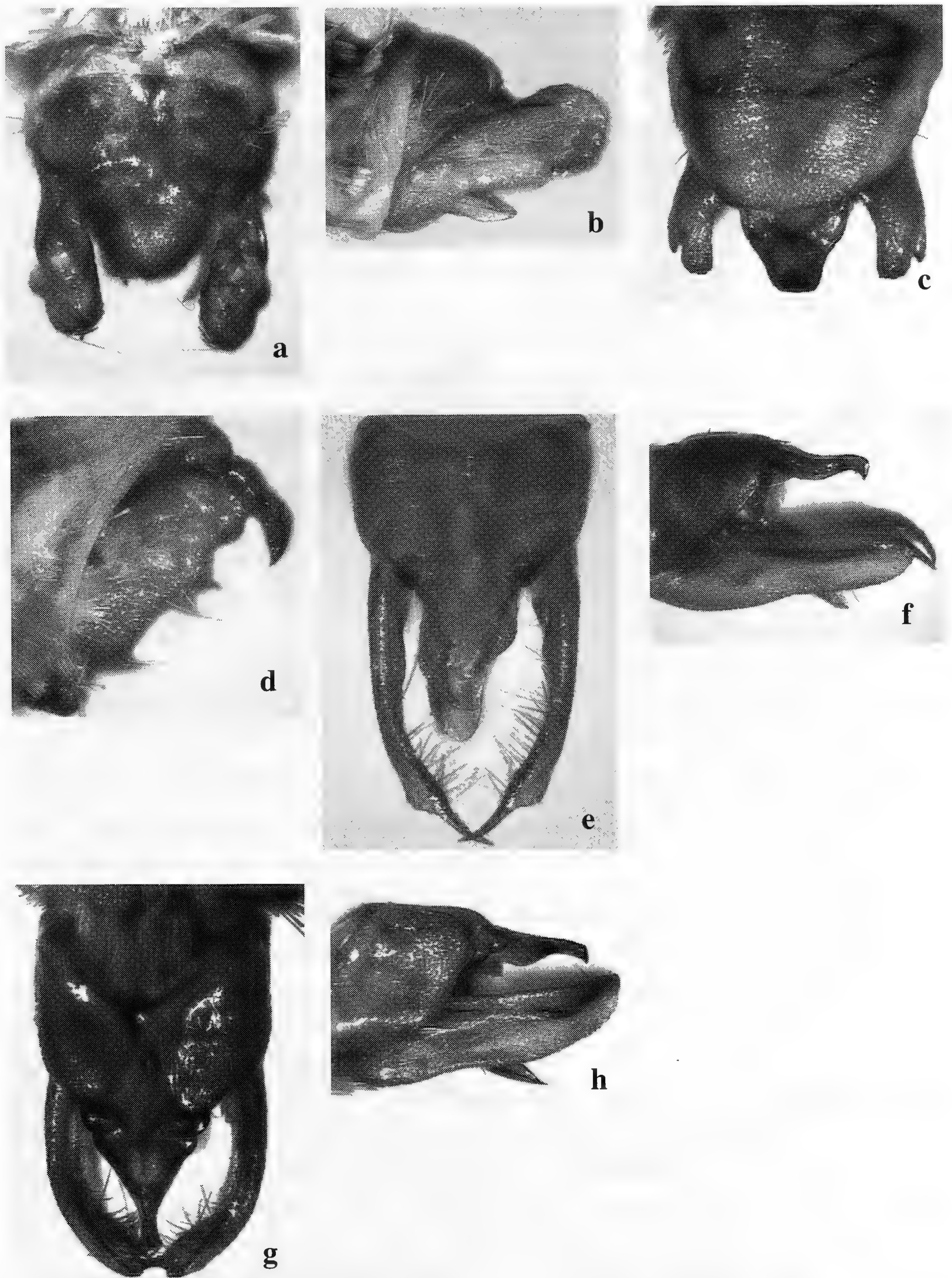


**Plate 20. Uppersides of males of *Desertobia ankeraria* and related species.** 1: *Desertobia ankeraria*, male. BG, Kresna Gorge, Stara Kresna Railway Station, 05.III.1988, S. Beshkov leg.; 2: *Phigaliohybernia marginaria*, male. BG, Eastern Rhodopi, „Petko Bair” near Armira, Ivaylovgrad distr., 200m, 23.II.2006, S. Beshkov & D. Vassilev leg.; 3: *Phigaliohybernia aurantiaria*, male. BG, Fisher Farm near Levunovo, Petrich distr., 26.XI.2009, S. Beshkov, R. Haverinen, J. Kaitila & K. Nupponen leg.; 4: *Erannis defoliaria*, male. BG, Eastern Rhodopi, Odrintzi Village, Ivaylovgrad distr., 24.XI.1990, S. Beshkov leg.



**Fig. 1: Male antennae.** a: *D. ankeraria*. Kozhuh, near Petrich, 20.ii.2010, S. Beshkov & P. Tzvetkov leg.; b: *P. aurantiaria*., Kmetoytzi Village near Gabrovo, 18.xi.2010, S. Beshkov leg.; c: *E. defoliaria*, Sofia, 09.xi.1955, N. Vihodcevsy leg.; d: *P marginaria*. Kozhuh near Petrich, 20.ii.2010, S. Beshkov & P. Tzvetkov leg.





**Fig. 2:** Male genitalia of *D. ankeraria* and similar species. Left column – dorsal view; right column – lateral view of insect's left side. a & c: *D. ankeraria*, Kresna Gorge, Stara Kresna Railway Station, 03.ii.1988, S. Beshkov leg.; b & d: *E. defoliaria*, Sofia, 09.xi.1955, N. Vihodcevsy leg.; e & f: *P. aurantiaria*, Fisher Farm near Levunovo, Petrich distr., 26.xi.2009, S. Beshkov, R. Haverinen, J. Kaitila & K. Nupponen leg.; g & h: *P. marginaria*, Eastern Rhodopi, Studen Kladenetz Village, 24.ii.1990, S. Beshkov leg.



### Bulgarian records

*Desertobia ankeraria* is known from Italy, Slovenia, Austria, Hungary, Romania, Croatia, Armenia, Turkmenistan, Turkey and Iran, where it inhabits xerothermic oak forests. According to Varga (2010), in Hungary it occurs in karstic oakwoods and warm oak forests dominated by *Quercus pubescens*. Leraut (2009: 127) included *Quercus petraea* as a larval foodplant. According to Varga (2010), it is strictly protected in Hungary species and it is also included in Hungarian Red Data Book. It is a species included into the EEC 92/43 Habitats Directive, Annex II and it is a Natura 2000 species.

*D. ankeraria* is not known from Bulgaria in the published literature. According to the scientific reserves from the *Natura 2000 biogeographical seminars in Sibiu, Romania*, this species was expected to be found in Bulgaria in the Black Sea biogeographical region and reported from three localities in Romanian part of Dobrogea. However, these records are regarded by us as being doubtful and in need of confirmation.

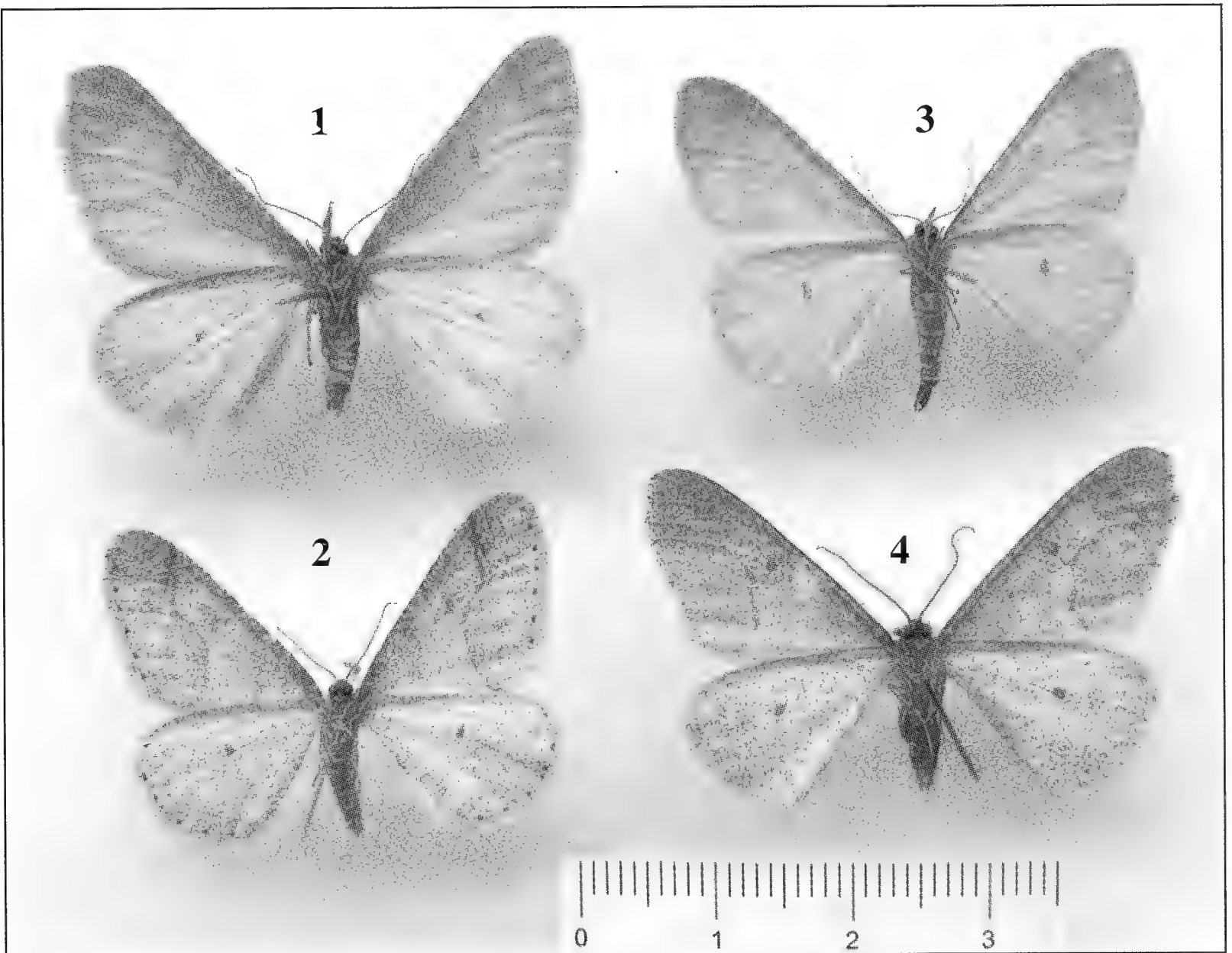
At the very beginning of April, 2010 we carried out field research in three areas very close to the Bulgarian/Romanian border, using both mv lamps, black light and actinic lamps. In spite of suitable habitat and available food plant, *D. ankeraria* was not found. Unfortunately, the less than perfect weather conditions may have had an adverse effect.

However, we have found *D. ankeraria* in the extreme opposite end of the country from where it was predicted, in two Natura 2000 sites: BG0000366 Kresna-Ilindentzi and BG0001023 Rupite-Strumeshnitza. In the former, *D. ankeraria* was found three times in three different years in the Middle Struma Valley at Kresna Gorge, Stara Kresna Railway Station, 300m, N41°48'15"; E023°09'49", S. Beshkov leg., 14.iii.1985 – five males, 13.iii.1986 – one male and 05.iii.1988 – four males. In Rupite-Strumeshnitza, *D. ankeraria* was found only once, at the volcanic hill of Kozhuh, near Petrich, 264m, N41°27'37"; E023°15'30" (Plate 23), 20.II.2010, S. Beshkov & P. Tzvetkov leg. at light traps, 1 male.

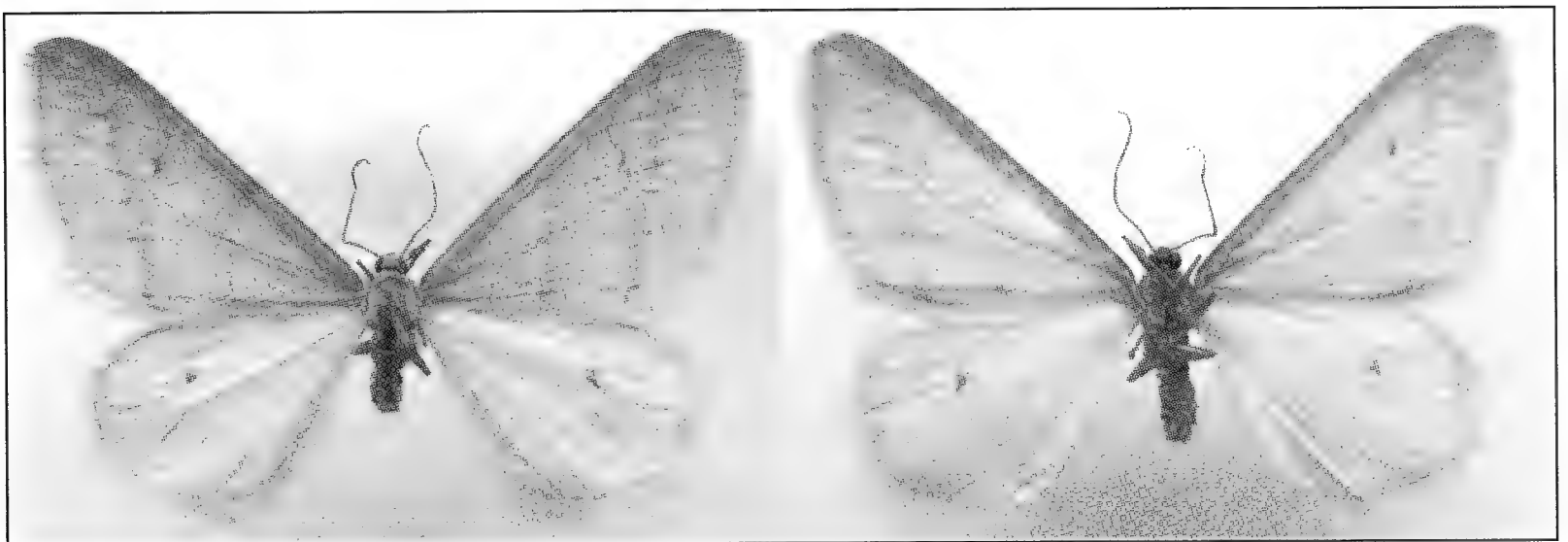
The failure to find *D. ankeraria* in Bulgaria until now is perhaps a consequence of its very early flight period which is of short duration – it flies often only for one week. It may also have been overlooked through misidentification. It is, however, without doubt an extremely localised and numerically uncommon species in areas where it occurs. The Bulgarian localities here reported suggest strongly that it may also occur in Macedonia and in other Balkan countries.

### Molecular research

One leg from the specimen from Kozhuh with ID number BC SB Lep 0049 was sent for barcoding to Canadian Centre for DNA Barcoding (CCDB), International Barcode of Life Project (iBOL), Barcode of Life Data Systems (BOLD),



**Plate 21. Undersides of males of *Desertobia ankeraria* and related species.** 1: *Desertobia ankeraria*, male. Kresna Gorge, Stara Kresna Railway Station, 05.iii.1988, S. Beshkov leg.; 2: *Phigaliohybernia marginaria*, Eastern Rhodopi, 'Petko Bair' near Armira, Ivaylovgrad distr., 200m, 23.ii.2006, S. Beshkov & D. Vassilev leg.; 3: *Phigaliohybernia aurantiaria*, Fisher Farm near Levunovo, Petrich distr., 26.xi.2009, S. Beshkov, R. Haverinen, J. Kaitila & K. Nupponen leg.; 4: *Erannis defoliaria*, Eastern Rhodopi, Odrintzi Village, Ivaylovgrad distr., 24.xi.1990, S. Beshkov leg.



**Plate 22. *Alsophila aceraria* ([D. & S.], 1775), Bessaparski Ridove Hills near Byaga Village, Pazardzhik Region, 03.xii.1985, S. Beshkov leg. a: upperside; b: underside.**



**Plate 23.** Collecting locality of *Desertobia ankeraria*. Volcanic hill of Kozhuh, near Petrich, Bulgaria, 264 metres.

University of Guelph, Biodiversity Institute of Ontario. Barcode analysis shows that *D. ankeraria* differs significantly from other species discussed here and it is situated between *P. marginaria* and *E. declinans*; its closest taxon (from available taxa) is *P. marginaria*.

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## Entomologists I have known

Apart from my friends from schooldays in the London suburb of Greenwich, Keith H. Hyatt and Denis F. Owen (1931-1996), I did not come in contact with other entomologists until I became a member of the London Natural History Society (LNHS) in 1946. The most prominent of these were Cynthia Longfield (1896-1991), C. L. Collenette (1888-1959), R. M. Payne, P. W. E. Currie, (1913-1999), Leonard Parmenter (1903-1969) and Baron Charles de Worms (1904-1979). Cynthia Longfield, the world authority on Odonata, Leonard (Len) Parmenter, a Dipterist, and the very well known Baron de Worms were especially welcoming and encouraging to my friends and myself. Len Parmenter, a former President of the Society, who had begun as an ornithologist and a Lepidopterist, took a great and encouraging interest in young members, and did his best to persuade me to take up the study of Diptera as he himself had done. Rightly, he said that there were plenty of Lepidopterists, but not enough Dipterists. He at least succeeded in interesting me in them in addition to Lepidoptera, Odonata and Orthoptera. Len was very helpful when I was putting together my *Oxford Book of Insects* (Oxford University Press, 1968). I was much saddened by his untimely death only a year after its publication. R. M. (Ron) Payne is the botanist and entomologist who, through his 1958 paper 'The distribution of grasshoppers and allied insects in the London Area' (*London Naturalist* 37: 102-115), stimulated me to become enthusiastic about European Orthoptera. Nowadays, my old school-friend Keith Hyatt is a Past President of the Society and the current, long-serving Editor of its prestigious journal *The London Naturalist*. It was not long after joining the LNHS that Denis Owen and I found ourselves elected to the Society's entomological committee and leading field meetings to our favourite haunts in north-west Kent.

Soon after leaving school at the age of 17 in 1948, I applied for and was accepted for a post as a Scientific Assistant in the Department of Entomology in London's Natural History Museum at South Kensington, then known as the British Museum (Natural History). Here the Keeper of Entomology was N. D. (Norman) Riley (1890-1979), internationally known as an authority on Lycaenidae. Other senior members of the staff at that time included W. H. T. Tams, T. G. Howarth, J. D. Bradley (1920-2004), D. S. Fletcher (all Lepidopterists), Harold Oldroyd, F. van Emden, P. F. Mattingly and R. L. Coe (Dipterists), J. Balfour-Browne, A. W. McKenny Hughes, E. A. J. Duffey and M. E. Bacchus (Coleopterists), W. E. China (Hemiptera), D. E. Kimmins (Neuroptera), Theresa Clay (Siphonaptera), R. B. Benson, J. F. Perkins, H. J. Donisthorpe, I. H. H. Yarrow and R. D. Eady (all Hymenopterists).

In those years, the Museum was part of the British Civil Service and I was amused to discover that I was required to sign the Official Secrets Act. I wondered what secrets I could give away which would imperil the nation! All the doors leading off the parts of the Museum open to the public were kept locked and all members of the staff were issued with a huge key on a chain to gain access to the research areas. We had to collect our personal key from the reception desk, which



was known as the Pound, on arrival and return it there on departure. It was considered a grave offence to absent-mindedly take your key out of the Museum and you were obliged to return it at once. As far as I recall, this happened to me only once. The key was really too large to overlook! Nowadays, more modern locks have allowed its replacement by a much smaller one. Incidentally, my school friends, Keith Hyatt and Denis Owen also joined the Museum's staff, the former in the Department of Zoology and the latter in the Bird Room, although only Keith spent his entire career there. Another school friend, the late Harry D. Scammell, also became a Scientific Assistant – in the Geology Department – but eventually left for the United States of America, where he became a very popular head of Yale University's library.

New Scientific Assistants started work in the Setting Room, where apart from setting and mounting newly acquired specimens for the specialists to work on, one's duties included taking it in turns to print data labels on a manually operated printing machine, delivering the post to the other members of staff and escorting visitors to the Department to the person they had come to see. Members of the public who arrived with specimens for identification or other enquiries were also taken to the appropriate specialist. Working in the Setting Room certainly provided a valuable introduction to all the insect orders and one soon learned to distinguish them at a glance. When I began there I was already familiar with the British Lepidoptera, but my knowledge was soon widened to encompass the species from elsewhere in the world. Likewise, I became increasingly familiar with the world's other insect orders. Of course, as a field naturalist I retained a special interest in the insects of the British Isles. Some of the insect collections I worked on had been acquired by the Museum many years before and had not since been looked at until they came into my hands. I therefore found it fascinating to remove specimens from papers in which they had been enclosed by the collector a hundred years or so ago and not seen again until I did so. Often most of these specimens were of common species and of little interest. Sadly, I suspect that when I had set them and passed them on to the appropriate specialist they were quietly disposed of. Nowadays, I would consider these specimens from the 1860s or thereabouts as being of historic interest.

In 1948 the Museum was still recovering from the disruption caused by the Second World War. The most valuable collections had been removed to places of safety and were gradually being brought back. On an upper floor, the Mammal Gallery was in semi-darkness and full of large stuffed mammals crammed in there in no particular order. We often used it as a short cut from the Entomology Building to the restaurant when we had our coffee and tea breaks. Although the stuffed lions, tigers, leopards, gorillas, chimpanzees, etc, were, of course, long dead, I must confess to a certain unease when I walked alone past them in the gloom and felt glad on reaching the doors at each end of the gallery. When I had the opportunity, I liked to visit the Botany Department where they were drying-out the herbariums which had been stored in less than ideal conditions during the war years. In particular, I was intrigued by the several volumes of the herbarium

amassed by the Reverend Adam Buddle (1660-1715) which were opened up on long tables. These plant specimens had been collected and pressed by him, apparently from around London between 1699 and 1715, and, what was of special interest to me, among them he had pressed various butterflies and other insects (see Plate 4 in Salmon, M.A. 2000. *The Aurelian Legacy*. Harley Books, Colchester, Essex). According to Salmon, the entomological interest of this herbarium was only recently discovered. Unfortunately, I had not, in 1948, noted the compiler of this herbarium and when in the 1970s I tried to trace it through friends in the Botany Department, nobody had any knowledge of an herbarium with pressed butterflies! So I am delighted that it was eventually rediscovered.

Cynthia Longfield and Baron de Worms were not members of the Department of Entomology's staff but, as Associates and volunteer workers, had a working space and table of their own. Both were very friendly and helpful to me. Soon after I joined the Museum, the Baron took me along to meetings of both the Royal Entomological Society and the South London Entomological and Natural History Society (now the British Entomological and Natural History Society). In 1948 he proposed me for Fellowship of the Royal Entomological Society, so, at the age of 17, I became one of its youngest Fellows, if not the youngest at that time. Most of the senior members of the Entomology Department were Fellows and we all regularly attended the Wednesday afternoon meetings, just around the corner from the Museum at 41 Queen's Gate. Following tea and biscuits in the Society's library we all traipsed down the stairs to the panelled meeting room in the basement. Before the main business of the meeting, newly elected Fellows were introduced to the President and formally admitted by him to membership of this eminent Society.

I particularly enjoyed the meetings of the 'South London', as it was familiarly called, partly because the evening meetings at that period were held in the plush red-upholstered seating and surroundings of the rooms of the historic Royal Society in Burlington House, Piccadilly, and partly because the atmosphere was rather less formal due to the high proportion of amateur entomologists from all walks of life who were members. Among them were such luminaries as S. G. Castle Russell (1866-1955), a really charming and friendly man, known to everyone as 'C. R.', William Rait-Smith (1875-1958), Dr. E. A. Cockayne (1880-1956), H. C. Huggins (1891-1977), Air Marshal Sir Robert Saundby (1896-1971), S. N. A. (Stanley) Jacobs (1896-1989), R. F. (Russell) Bretherton (1906-1991), R. L. E. Ford (1913-1996) and J. M. (Michael) Chalmers-Hunt (1920-2004). It was at the South London in 1948 that I met and talked to former naval Captain T. Dannreuther, who formed the Insect Immigration Committee of the South-eastern Union of Scientific Societies in 1931. He began collecting data on insect migration from numerous amateur observers in the British Isles and publishing an annual report in *The Entomologist* until 1952, when he was succeeded by R. A. French of the Rothamsted Experimental Station. He seemed to me at the time to be very old and, indeed, talked of serving on 'a man of war' off the coasts of Africa!

At the beginning of 1950 I was called up for National Service in the Army. When I was released early in 1952 I returned to the Museum. I hoped soon to be moved from the setting room to work with the specialists on Lepidoptera or another insect order that interested me. However, perhaps because my setting abilities were considered to be of a high order (I was sometimes asked to prepare exhibits for the Museum Trustees to see), I found out that I was apparently being groomed to take charge of the Setting Room when the present incumbent eventually retired. I was not happy about that and so, as I was also an amateur ornithologist, I applied for and succeeded in getting the newly created post of General Assistant Secretary to the British Trust for Ornithology (BTO) in Oxford. My friend Denis Owen preceded me to Oxford by a year, having secured on his release from National Service a research post with the University's Edward Grey Institute of Field Ornithology.

Although, now very much involved in the world of ornithology, I still maintained my entomological interest at Oxford, getting to know Dr. B. M. Hobby, the then editor of the *Entomologist's Monthly Magazine*, Prof. E. B. Ford (1901-1988), Dr. H. B. D. (Bernard) Kettlewell (1907-1979) and Prof. G. C. Varley. When I eventually left the staff of the BTO to read for a degree in Zoology, Dr. Hobby was my zoological tutor. About this time I met Dr. C. B. (Carrington Bonsor) Williams F.R.S. (1889-1981), the pioneer authority on insect migration and an author of books and papers on the subject. On 1 December 1954 I had the honour of presenting a paper of my own on autumn insect migration at the same meeting of the Royal Entomological Society as he presented one. Professor G. C. Varley, Miss Cynthia Longfield, Dr. F. van Emden and E. B. Britton were among those who contributed to the subsequent discussion.

Returning to those entomologists I first met in the late 1940s and in the 1950s, Baron C. G. M. (Charles) de Worms (1904-1979) stands out for me. His title was inherited from a great-uncle who had been made an hereditary baron of the Austrian Empire in 1871. He himself was born in Egham in Surrey and was educated at Eton College and King's College, Cambridge University. A research chemist by profession, he obtained a doctorate from London University, and, among other things, he was in charge of one of the military research laboratories during and after the Second World War. When I was still doing my national service in the Army near where he lived, I remember spending an evening after nightfall with him on Effingham Common in Surrey in late April 1951, searching with the aid of a lantern for the Geometrid *Aleucis (Bapta) distinctata* Herrich-Schäffer. We had been quite successful, obtaining several specimens, when we were interrupted by the arrival of a policeman. Apparently, somebody had reported a suspicious light moving among the bushes. Fortunately, the policeman responded well to the Baron's hearty greeting 'Good evening, officer', became interested in what we were doing and stayed to help!

Baron de Worms, although affable, had rather unrefined manners and a gruff way of speaking. As mentioned by Richard Fortey in his book about London's Natural History Museum (*Dry Store Room No. 1*, London, 2008), he regularly attended



meetings of the Royal Entomological Society, he often fell asleep during them and would punctuate the lectures with loud grunts: 'If he liked the lecture the grunts were different ones than if he disapproved.' I noticed that if I or someone else he knew arrived a little late, he would interrupt the lecturer with a loud greeting such as 'Hello, Burton! Caught anything interesting lately?' He was a glutton for food and was well known for drinking soup noisily. Forzey also recalls the occasion when a member of the Department of Entomology, T. G. (Graham) Howarth invited him home to dinner. After heartily consuming a three-course dinner, he left early and, on his way out, asked Graham if there were any good restaurants in the vicinity as he was feeling a little peckish. I kept in touch with the Baron more or less up to the time of his death in 1979. Some years earlier I had invited him to participate in one of my BBC radio programmes (*The Butterflies of the New Forest*).

Cynthia Longfield (1896-1991) who, like Baron de Worms, was especially kind to me in my early years as a member of the London Natural History Society and when I worked at the Natural History Museum, was a charming, very friendly and elegant lady of Anglo-Irish descent who was a world authority on the Odonata as well as being quite a keen bird-watcher. She had that confident manner so characteristic of the upper class and spoke with a clear, beautifully articulated pronunciation. She died at the great age of 95 in June 1991. My last conversation with her was by telephone to the Republic of Ireland, where she had retired, a few years before her death, when I arranged for her to record a contribution to a radio programme I made about her contemporary Evelyn Cheesman, whom she had accompanied on the *St. George* scientific research voyage to the Pacific in 1924-25. She went as an entomological assistant to C. L. (Cyril) Collenette (1888-1959), visiting the Galapagos and many other island groups. She also undertook expeditions to the Mato Grosso in Brazil, south-east Asia, south-east Africa and the Canadian Rockies in the 1920s and 1930s. Cynthia became an Honorary Associate of the British Museum (Natural History) at South Kensington and gave much time to working on the Odonata collections there. She volunteered for the fire service in the Second World War and helped by her prompt actions to save the Museum from destruction by fire during a severe air raid.

When she was not collecting insects alone among the cannibalistic and head-hunting native tribes in the highlands of Papua New Guinea or elsewhere in the South Pacific, the above-mentioned frail-looking, but in reality tough and intrepid little lady entomologist Evelyn Cheesman (1881-1969) also worked at the South Kensington Museum. I used to see her there quietly working at her secluded table on the specimens she had collected, some of them new to science. As a boy I had listened with fascination to her BBC radio broadcast accounts of her adventures in such distant places and they made a big impression on me.

Another lady entomologist whom I first met at Royal Entomological Society meetings in the late 1940s was Dame Miriam Rothschild (1908-2005), a daughter of Nathaniel Charles Rothschild (1877-1923) of the well known and wealthy banking family, and an authority on the taxonomy of fleas. Like her father, she



was an authority on fleas, and was a very lively contributor to these meetings. She wore rather unusual and flamboyant clothes and matching headscarf, often of silk and decorated with butterflies and other insects. A Fellow of the Royal Society, the first woman President of the Royal Entomological Society and the first woman Trustee of the Natural History Museum, she was known as the Queen Bee and arrived in London in a chauffeur-driven Rolls-Royce, sometimes still wearing the Wellington boots (gumboots) she had worn earlier that day on her country estate. There are photographs of her wearing white Wellington boots when greeting the British Queen at a reception to mark the 150th anniversary of the Royal Entomological Society and when attending Prince Charles's 40th-birthday ball at Buckingham Palace. Her lavish parties at her palatial home at Ashton Rowant in Northamptonshire were renowned. I was one of the many guests at one on 12 June 1999 when she celebrated her 90th birthday. The mid-morning refreshments were a meal in themselves and included quails' eggs and caviar. We could hardly believe it when not long afterwards lunch was announced and consisted of several courses. I sat with the late E. W. (Eric) Classey (1916-2008) and he told me how the wine we were drinking from Chile came to be called Chateau Rothschild. Apparently, a friend had recommended to her the wine from this particular vineyard and, on tasting it, she said I will buy the vineyard and did so. The local village is part of the estate and she had its pub named 'The Chequered Skipper' (Gelbwüfeliges Dickkopffalter *Carterocephalus palaemon*), a butterfly that formerly occurred in the area, but now extinct. An extra penny was surcharged on every pint of beer sold in this pub and donated to the World Wildlife Fund.

Miriam Rothschild received many honours in her long lifetime, including at least eight Honorary Doctorates from various universities (Cambridge and Oxford among them), election as a Fellow of the Royal Society and appointment as a Dame of the British Empire (DBE) in 2000. She published more than 300 scientific papers, most of them concerned with entomology and chemical ecology. The latter involved the take-up by aposematic Lepidoptera of toxic compounds from plants and the reactions of bird predators to them. One of her earlier experiments with Zygaenids involved injecting herself in the arm with a toxin with, not unsurprisingly, unpleasant consequences. As a result of a car accident, she was unfortunately obliged to depend upon a wheelchair for mobility for the last decade or so of her life, but, as I saw for myself, she could propel herself around with remarkable skill and speed. She was indeed a marvellous woman with a brilliant intellect.

P. W. E. (Piers) Currie (1913-1999) was another prominent entomological and ornithologist member of the London Natural History Society whom I got to know in the 1940s. He specialised in Hymenoptera, especially sawflies, and in the field he used a huge white net into which he virtually disappeared when peering into it at his captures. He was a lawyer in the City of London who eventually became a judge. He dressed elegantly and possessed exemplary manners. On one occasion in 1947, when with other LNHS members he was investigating the insects that had colonised the bombed sites in central London, he noticed a Large Tortoiseshell

Butterfly (Großer Fuchs) *Nymphalis polychloros*, a rare species in England, feeding from the blossoms on a large *Buddleia davidii*. He was about to capture it when a lady walked by wearing a large hat decorated with flowers. The butterfly immediately flew from the bush and landed on her hat. Undeterred, in one graceful movement Piers raised his bowler hat to the lady with one hand, said 'Excuse me, Madam' and swept the butterfly from her hat with his net in the other hand without dislodging her headpiece. After his retirement in 1978, he took holy orders and became a parish priest in Norfolk and later served with great distinction on the staff of Norwich Cathedral (see obituary in *The London Naturalist*, No. 78, pp. 205-2006).

A great character at the Natural History Museum in London, who in my last year at the museum occupied the room next to me, was the eminent Lepidopterist W. H. T. Tams. He was known to colleagues and friends as 'Timothy' or 'Tim' and sometimes as 'Tiger'. Born in Cambridge on 18 December 1891, he had white hair and still dressed in an old-fashioned Edwardian style with a starched winged collar and a bow tie. Right to the end he wore bow ties of a variety of styles. He had joined the museum staff in 1920. Although he officially retired in 1957, he continued to work there until 1978 when the journey from his home became too much for him. His room and desk was absolutely cluttered with books and papers and specimens. When he wanted to examine a specimen, he just cleared a small space on his desk with his hands. I saw him mainly first thing in the morning as he tended to work at night and went home soon after I had arrived to work. It was this habit that caused Norman (N. D.) Riley at a meeting of the Royal Entomological Society to compare him with the behaviour of the nocturnal moths on which he was a specialist! During the Second World War air raids he was a member of the South Kensington museums' fire-watching team, often being stationed in one of the Natural History Museum's towers when an air-raid was in progress. From here escape in an emergency was down the outside on a rope; a photograph from 1940 showed him making a practice escape in this manner. In the early post-war years he was an ardent communist and frequently attempted to persuade me and other colleagues to sign the British Communist Party's peace manifesto. Nevertheless, he was a very kind, generous (particularly in helping with advice and identification) and good-humoured man with a great sense of fun. He especially loved to make fun of those in authority. He died on 10 November 1980 at the age of 89. His obituary by D.S. Fletcher & J.D. Bradley was published in *Proc. Trans. Br. Ent. Nat. Hist. Soc.*, 14: 34-36 (1981).

Among others on the museum's entomological staff at that period who made an unforgettable impression on me was P. F. Mattingly, a dipterist who was a world authority on mosquitoes; he always seemed to be in such a hurry that his legs didn't seem to carry him fast enough and he therefore held his head somewhat in advance of his body, with his spectacles balanced near the tip of his nose. When he crossed the Cromwell Road, the busy road in front of the museum, on his way home he would more or less thrash his way through the passing traffic with his walking stick to the great astonishment of the drivers. How he escaped injury was a miraculous

mystery. He was famously absent-minded. In his book, Richard Fortey relates the story of him arriving as normal at the Museum, grabbing his key and hastily heading to his office. 'A few minutes later a woman ran in, breathless. "Has Dr. Mattingly arrived?" she gasped. When the answer was given in the affirmative she explained that she was Mrs Mattingly and that all the family had been waiting in the car to go on summer holiday ... but before he could be stopped Dr. Mattingly had grabbed his briefcase and shot off to the commuter train and come into London to work on his mosquitoes. He had forgotten all about the holiday.'

Another colourful character was the coleopterist A. W. McKenny Hughes who held the position of Royal entomologist. He was a friend of the then Duke of Gloucester who sometimes visited him at the museum, occasionally accompanied by his eldest son. Another well known coleopterist was J. Balfour-Browne who specialised on water-beetles. He seemed to me to be a very quiet, retiring man. Unfortunately, he died working at his desk with his back to the door; a girl came in one morning to deliver his mail and tapped him on the shoulder to draw his attention to it. To her horror he then slumped from his chair to the floor.

One of my contemporaries at the Natural History Museum, who started work there at the same time as I did, was Pamela Gilbert who went on to be in charge of the Entomology Library and is now an authority on the history of entomological literature. Another was Ivor Lansbury, who is now a well known specialist on aquatic Hemiptera.

In the 1940s and 1950s, the Anti-Locust Research Centre occupied rooms in the museum. In charge was the Russian Professor Sir Boris P. Uvarov, F.R.S., (1889-1970) and another Russian, Dr. Nina Waloff, was a member of his staff. I never really got to know them, but Dr. Waloff kindly presented me with an autographed copy of the massive paper she published in 1954 with Professor O. W. (Owain) Richards (1901-1984) of Imperial College, London, *Studies on the Biology and Population Dynamics of British Grasshoppers* (Anti-Locust Research Centre, London, 1954) to which I had contributed some observations. Professor Richards was a charming man and a renowned entomologist.

In 1956 Denis Owen and I left our respective jobs with the Edward Grey Institute and the British Trust for Ornithology to read for a degree in Zoology at Oxford University. Afterwards, Denis went to the University of Michigan in the U.S.A. to teach that subject and I joined the editorial staff of *Encyclopaedia Britannica* in London as a specialist in natural history subjects. However, in 1960 I was offered a post in radio and television with the BBC Natural History Unit in Bristol. In the course of working on television programmes and producing my own radio programmes I had the opportunity to renew my acquaintance with those entomologists I already knew and to meet new ones. One of the first I really got to know was L. Hugh Newman (1909-1993), the son of the very well known Lepidopterist, L. W. Newman (1873-1949), who, in 1894 at Bexley in Kent, started the second ever 'butterfly farm' to be established in Britain, and which became world-famous. The farm was within comfortable cycling distance of my

boyhood home in the London borough of Greenwich and one hot, sunny day in May 1947, when I was 16, I cycled there to purchase some pupae (I can't remember now what of) and met Hugh Newman for the first time. He showed me, among other things, numerous newly emerged *Papilio machaon*, *Pieris napi* var. *hibernica*, *Arctia villica* and various Sphingidae. Although his father was still alive then, he had retired and had left the running of the business to Hugh, so I did not meet this well respected tall man, remembered by those who knew him for his cheerful friendliness. I did not see Hugh Newman again until 1958, when we met at a meeting of the Sidcup Natural History Society and were photographed together. Ever since the war years in the 1940s, he had established himself as the BBC's expert on butterflies and other insects, and broadcast regularly on radio and television. So on joining the BBC Natural History Unit, I got to know him well and we became good friends and remained so until his death on 23 January 1993. As well as broadcasting, he wrote many popular books on entomology, including *Butterfly Farmer* (1954) and *Living with Butterflies* (1967), both of which told the story of the butterfly farm, and a book on ants for which he asked me to write the Foreword. He also took part in at least one radio programme that I produced.

Other well known entomologists who took part in my radio programmes included R. F. (Russell) Bretherton C. B., (1906-1991), J. M. (Michael) Chalmers-Hunt (1920-2004), the Reverend Anthony Harbottle (1925-????) Captain Reginald Andrew Jackson, ex Royal Navy (1890-1969), Major-General C. G. Lipscomb, N. D. (Norman) Riley (1890-1979), M. W. F. (Michael) Tweedie (1907-1993) and Baron Charles de Worms (1904-1979). Russell Bretherton was a senior civil servant by profession who became an authority on the migrations of Lepidoptera. We had corresponded fairly regularly about insect migration and in 1980 my producer colleague Michael Bright and I visited him in his home in Surrey to record some of his memories for a special programme we made about the fascination of butterflies. I had known Michael Chalmers-Hunt, a former Editor of *The Entomologist's Record and Journal of Variation* and author of *The Lepidoptera of Kent* (1968-1981) from my youth and, among other things, he was a wonderfully reliable supplier of Lepidopterous larvae and pupae when we needed them for filming in BBC wildlife programmes. I sometimes stayed with him and his charming wife and their two daughters in his home in Kent. The Rev. Anthony Harbottle was a delightful former Chaplain to the Queen at Windsor. For the butterfly programme mentioned above, Michael Bright and I interviewed him in his home adjacent to Windsor Castle. We admire his magnificent collection of British Lepidoptera, much of which he had obtained in and around the vast Windsor Park with its many ancient oaks and other trees. Over tea he regaled us with many splendid anecdotes and memories, including stories of the practical jokes the late Princess Margaret, the Queen's sister, used to play on him from time to time when staying at the castle as a very young woman. She would, for example, make up an insect specimen from the parts of other species and



gleefully ask him to identify it. The Queen herself would ask him to identify insects that she came across which were unfamiliar to her.

Major-General C. G. Lipscomb, who died several years ago, was another keen amateur Lepidopterist that we interviewed for our special butterfly radio programme. Among his memories, the one I especially remember concerns an occasion when he was commanding an Army brigade in northern France in 1944: in the course of their advance eastwards he came upon a flourishing colony of Chalkhill Blue butterflies *Lysandra coridon* (Silbergrüner Bläuling) with many aberrations, and ordered his troops to stop for a rest while he spent an hour or so collecting some.

After I had left the Natural History Museum in 1953, I quite often met the Keeper of Entomology, Norman (N. D.) Riley at entomological meetings, especially when I served on the Joint Committee for the Conservation of British Insects of which he was Chairman and which met at the Royal Entomological Society. I always had the feeling that he resented my leaving the Museum's staff because, as mentioned earlier, I believe he was grooming me for a particular post in the Department of Entomology that did not interest me. However, by the early 1980s I think he had forgiven me because he became quite amiable and happily allowed me to interview him for a radio documentary I made about the life of the entomological explorer, the late Evelyn Cheesman, which it will be remembered I mentioned early on in this account.

Michael Tweedie (1907-1993) became a good friend on his return to the United Kingdom in 1957 after working for many years at the Raffles Museum and Library in Singapore, where he eventually became the Director and a leading authority on the zoology of the Malaysian region. He named 40 taxa and had three genera, 26 species and two subspecies named after him. During the Second World War he was taken prisoner by the Japanese in Java. During his four years as a prisoner he was moved from Java to Japan and then to Manchuria. In Java he cured many of his fellow prisoners of pellagra by making a yeast mixture, rich in Vitamin B, from potatoes and other ingredients. After his return to England, Michael became a busy natural history journalist and insect photographer, and regularly broadcast in our BBC natural history radio programmes, especially those involving the answering of listeners' questions. His many excellent colour photographs have been used to illustrate books and articles, not only in Britain, but overseas as well. I occasionally visited him at his home in an attractive corner of Romney Marsh in Kent, close to the ancient Cinque port of Rye, where he had been born. Here we ran his mercury vapour moth trap and explored the neighbouring parts of Romney Marsh. He was a very friendly and likeable man and an extremely enthusiastic expert naturalist who made an immense contribution to popular science. A full bibliography, covering 1933 to 1991, will be found attached to the obituary by Barry Goater in the *Entomologist's Record & Journal of Variation* (see References). One of his daughters, Jill (1932-1993), became a well-known and influential feminist journalist and broadcaster.

Captain R. A. (Rex) Jackson, who was born in Dublin, Ireland, in 1890, followed his father's (a Surgeon Captain) footsteps into the Royal Navy at an early age. It was as a naval cadet in the Isle of Wight that he became an enthusiastic student of Lepidoptera. In the First World War he served with battle cruisers based at Scapa Flow and also in the Middle East. In 1930 he attended the Coronation in Addis Ababa of the then Emperor of Ethiopia as ADC to the Duke of Gloucester. In the Second World War he was employed at the Admiralty in London. Once in 1945 he was relaxing at Plymouth, following a naval inspection, when he suddenly saw a Bath White (Reseda-Weißling) *Pontia daplidice*, a rare immigrant in England alight on a nearby flower. His reaction was immediate: he pulled off his naval cap and neatly caught the butterfly with it. As the late Baron Charles de Worms wrote in his obituary of Captain Jackson in *The Entomologist's Record* (82: 59-60) 'his cheery disposition coupled with a somewhat jaunty air and his famous monocle helped to bring him many entomological friends whom he was always ready to welcome and assist in their collecting exploits.' In 1963 he participated in a BBC radio programme that I produced about the butterflies of the New Forest in southern England. After we had finished recording the programme in Broadcasting House in London, I was escorting him and the other speakers to the lifts when he suddenly remembered that he had forgotten his umbrella in the studio and turned back in that direction. Returning to the studio a few minutes later, I found myself confronted in the corridor by an irate and formidable middle-aged lady producer – the personification of 'Auntie BBC' who was holding Rex firmly by his arm. In the middle of her tirade I noted that the expression on Rex's face resembled that of a rather naughty schoolboy caught in the act of some misdemeanour. 'This rude man', I heard her say, 'burst into my studio in spite of the red light and exclaimed in a loud voice: 'What the hell – where am I?' And in the middle of the recording of my programme!' Unfortunately, Rex had been confused by the fact that the studios in this part of Broadcasting House all looked alike and he had walked into the wrong one, finding himself to everyone's consternation in the middle of a recording of a programme of classical music. Eventually, I managed to soothe the producer's ruffled feelings and, as I took Rex on to the right studio, he looked at me, grinning as he remarked in that rich naval voice of his, 'What an extraordinary female!' And we both roared with laughter.

My friend from schooldays, Dr. D. F. (Denis Frank) Owen was born in the same year and month as myself (April 1931) and sadly died in 1996, just as he was on the point of retiring from academic life at Oxford Brookes University. When I first met Denis at the Roan School for Boys, Greenwich, in 1946 my main interest was in ornithology. We agreed to go on field excursions together and, in the course of them, he got me interested in Lepidoptera and I him in entomology, so it was somewhat ironic that when we joined the staff of the Natural History Museum I became a member of the Department of Entomology and he worked in the so-called Bird Room. After National Service in the Army, he joined the staff of the Edward Grey Institute of Field Ornithology of Oxford University and a year later,

in 1953, I became the Assistant Secretary of the British Trust for Ornithology, also then based in Oxford. Later, after we had both worked for a Zoology degree at Oxford University, where we shared a flat, Denis began a distinguished academic career which took him to the United States, Uganda, Sierra Leone and back to Oxford, while I eventually joined the Natural History Unit of the British Broadcasting Corporation (BBC). He published many papers on entomological and ornithological topics, mostly with ecological and/or evolutionary themes, and such influential books as *Tropical Butterflies* (Clarendon Press, Oxford, 1971) and *What is Ecology?* (Oxford University Press, 1974). When in later years he returned to Oxford we saw a lot more of each other and made some radio programmes together. It was with much sadness that I wrote the obituary of him that appeared in *The Times* newspaper in 1996.

Many entomologists, especially the amateurs, seem to have lived long lives, presumably because their enthusiasm for the subject has involved them in much active fieldwork and kept their minds active to the very end. When I worked at the BBC it was a relief to turn from the obituary columns in the BBC's house journal *Ariel*, where the lives of those chronicled were often relatively and depressingly brief, to the obituaries in such entomological journals as *The Entomologist's Record* where many of the deceased had lived actively on into their 80s or 90s!

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- Goater, B. & Haggett. 2009. **Eric William Classey 1916 to 2008.** *Entomologist's Record & Journal of Variation* 121:33-36.
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- Salmon, Michael A. 2000. *The Aurelian Legacy.* Harley Books, Colchester. Biography of **Baron Charles de Worms**, pp.226-227.
- JOHN F. BURTON, In der Etzwiese 2, 69181 Leimen-St. Ilgen, bei Heidelberg, Germany.

## Interpretations on the display of the Ghost Moth *Hepialus humuli* L. (Lep.: Hepialidae) and the role of pheromones

The scales on the upper surface of the male Ghost Moth *Hepialus humuli* wings are very specialised. They appear to be bright white; in reality they are colourless but have an internal cuticular meshwork that is highly reflective (Kaaber, Kristensen, & Simonsen, 2009. Sexual dimorphism and geographical male polymorphism in the ghost moth *Hepialus humuli* (L.) (Lepidoptera, Hepialidae): Scale ultrastructure and evolutionary aspects. *Eur. J. Entomol.* **106**: 303-313). Their reflectance during displays becomes briefly most apparent against background vegetation as colours, in particular green, are gradually lost from the ambient light at dusk (Andersson, Rydell, & Svensson, 1988. Light, predation and the lekking behaviour of the ghost moth *Hepialus humuli* (L.) (Lepidoptera, Hepialidae). *Proc. R. Soc. Lond. B* **264**: 1345-1351). The display period is very brief, lasting around 45 minutes (e.g., Mallet, 1984. Sex roles in the ghost moth *Hepialus humuli* (L.) and a review of mating in the Hepialidae (Lepidoptera). *Zool. J. Linn. Soc.* **80**: 67-82) and ends when the moths either retreat into the long vegetation or pair and settle *in copula*. (personal observations). Observations at Banchory, Kincardineshire (57°03''N 02°30''W) in 2010 and 2011 were consistent concerning the timing of the display period, generally from extremes of *ca* 22.40 - 23.25 hours BST. NP measured incident light levels using a Gossen Lunasix 3 light meter which gave approximate extreme values of 22 Lux at the start to a barely measurable 1.0 Lux in the near-dark at the end of the display, slightly wider limits than those of Andersson *et al.* (*op. cit.*) in Southern Sweden (10 - 2.0 Lux). Given that the wing scales are so specialised and the display period so restricted, it seemed at least possible that there could be a brief resurgence of activity by males at comparable light levels at dawn. Waring, & Townsend (2003. *A Field Guide to the Moths of Great Britain and Ireland*. British Wildlife Publishing) state that both sexes fly at dusk and after dark; this is based on the fact that both sexes may be trapped at light during the night (Waring, *pers. comm*), whilst Carolsfeld-Krausé (1959. The mating of Hepialidae (Lep.). *Ent. Rec.* **71**: 33-34) mentions seeing males at a very large lek 'pendulating' again between 24.00 and 02.00 hours at Roskilde in Denmark (at a latitude similar to the Scottish Borders). In either case, the reflectance of the males wings would probably be ineffectual since there would be too little ambient light to reflect. Perhaps the pheromones from the scent brushes on the male's hind tibia could then assume greater importance. It has also been suggested that the restricted display period may be a response to avoid predation from birds and bats although in our experience, bats often begin hunting before the moths begin to display. Both AE and NP have watched bats (species unknown) catch displaying males at two well-separated display sites and have strongly suspected they did so at others even though males tended to display just at or below the top of the vegetation.



On 22 June 2010, AE walked through a field with a large lek in central Deeside from 03.00 – 03.20 BST at first light. Although she did not see any males (there had been hundreds displaying the night before and dozens of pairs were found *in cop.*) she did see many females flying at *ca* 03.15 hours and had the impression they were broadcasting eggs. Unfortunately, this lek had only a handful of males in 2011. NP visited a small lek at Banchory on 19 June 2011 (100% cloud cover, 12°C and dry) and saw at least 7 males and a female, the last male going down into the long vegetation at 23.25 BST (Picozzi, 2010. Observations on the display of the Ghost Moth *Hepialus humuli* (Linn.) in north-east Scotland. *Atropos* 40: 43-48). An attempt was then made to repeat Carolsfeld-Krausé's night-time observations, but with an emphasis on the early morning at light levels comparable with those of the main period of activity at dusk. NP returned later at 02.30 BST on 20 June while it was still too dark to register a light level (now 11°C, otherwise weather conditions were unchanged from the previous evening) and shone a torch over the lek. No moths were seen until 03.15 BST (light reading 2 Lux) when one female flew slowly low through the vegetation eliciting no response from a male. As there was no further activity he left at 03.40 (light reading 35 Lux). So, while it is possible that there is some display activity by males during the night, observations during the most likely time for such activity have so far been negative. However, the following observations may be relevant. The male watched for 10 minutes before it finally settled on the 19 June several times knocked against vegetation and even briefly landed on a *Rumex* leaf with the scent brushes making contact (Figure 1). Additionally,, males we have seen at the end of the evening display in central Deeside seemed to back into the long grass. In both instances it is possible, even likely, that pheromones would be deposited on the vegetation from the male's scent brushes, and this might serve to scent-mark a territory or at the very least indicate their presence to other males or perhaps especially to females. The display flights of individual males we have watched usually seem to be over a fairly small area of a few metres and disputes between males were often seen.

Females certainly fly after dark and are caught in light traps but males are caught less often. NP has caught only one male in four years, but has trapped four females in his suburban garden about 1.5 km from a small display site. Other moth recorders locally have only ever caught females although both sexes were caught at light traps set close to display sites at St Cyrus National Nature Reserve on 25 June 2010 and 2011 (B. Stewart *pers comm*). Roy Leverton and Cedric Holmes have told NP that they have watched Ghost moths coming to light traps at dusk which would tally with NP's observations of occasionally seeing females leave a display area at that time even though males were still displaying. Observations of females flying over display sites at first light seem to be new. No correspondents have seen males display at night, as was reported by Carolsfeld-Krausé (1959). Away from display sites, the implication is that males are relatively sedentary after dark, which is not surprising as



**Plate 24.** Male *Hepialus humuli* resting on *Rumex acetosa* during the display period. The scent brushes are clearly touching the leaf. © N. Picozzi

they would be more conspicuous than the cryptically coloured females. The puzzle is that the antennae of both males and females are so short compared with other moths that can detect pheromones at several kilometres. Nevertheless, since males emit a pheromone, scent clearly plays a part in the displays. Females have very reduced brushes on the hind tibia (illustrated in Hansen, & Jensen, 2005. Colour morphs of the Ghost Moth *Hepialus humuli* L. (Lepidoptera, Hepialidae) in the Faroe Islands. *Ent. Meddr.* 73: 123-130) but there is no evidence that they too disperse pheromones. If vegetation is indeed scent-marked as suggested above, it may be detected (presumably only at close range) by females seeking males both during and outside the normal display window by flying low through vegetation where males might be expected to gather for display. If so, then it is likely that the males' visual signal to females during the brief period of the display flight, which renders them

especially vulnerable to predation, is backed up by the deposition of pheromones when the visual signal is unlikely to be effective. Mallet (*op. cit.*) was of the opinion that the primary long-range feature attracting females to displaying males was scent and that sight operated at short range. We suggest the reverse situation to be the more likely, especially so given the highly evolved complex structure of the scales on the upper surface of male's wings and the very short antennae of both sexes.

Also puzzling is display seen at two leks by males 'swarming' by a isolated trees – a Rowan *Sorbus aucuparia* at one and a Norway Spruce *Picea abies* at the other. Up to 10 males slowly rose through the edge of the canopy in full display, body arched and scent brushes everted. The outcome is unknown, but by rising so high (6 – 10 m) against the dark background of the tree foliage they would be even more conspicuous to females, though of course also to predators. Males usually hover at or just below the top of the ground-layer vegetation so females flying slowly low through it might be as likely to detect their presence by scent as by sight but they might also follow them into tree canopies.

We are most obliged to Roy Leverton and Mark Young for their comments on a draft of the manuscript. — NICHOLAS PICOZZI AND ALISON ESPIE, Talsarn, Arbeadie Terrace, Banchory, Kincardineshire, Scotland AB31 5TN.

**TWO NEW SPECIES OF NOCTUIDAE (LEP.), SUBFAMILY  
HERMINIINAE, FROM FIJI**

JOHN CLAYTON

*15 Whinny Brae, Broughty Ferry, Dundee DD5 2HU.***Abstract**

A collection of moths from Fiji from the period 1991 – 2006 has revealed two previously undescribed species of Noctuidae which are described here as *Raphiscopa pulchripalpis* sp.n. and *Raphiscopa punctistigmata* sp.n.

**Keywords:** Fiji, Noctuidae, *Raphiscopa*, new species

**Family: Noctuidae**

**Genus:** *Raphiscopa* Hampson, 1925, *Ann. Mag. Nat. Hist.*, (9) 15, 408

The two species described here appear to be closely related. Both are characterised by the extremely long labial palps in the male, which bear a large hair tuft on the third segment, and the simple male genitalia.

***Raphiscopa pulchripalpis* sp.n.**

**Male: Plate 25, Figs 1 and 2.** Wingspan 26-28 mm. Head, thorax and antennae light brown. Abdomen light brown with segments edged light buff. Antennae bipectinate. Labial palps (Figure 1a) extremely long, recurved over body to the full length of the thorax; third segment bearing a large hair tuft; when extended total length of palps slightly greater than that of forewing; first segment pale buff, second and third buff below and brown above. Forewings broadly triangular; costa largely straight; apex obtuse; termen convex; pale buff more or less irrorated with dark brown; irroration increasing from very light near termen to become heavy towards base; a dark mark on costa at one half, and one on dorsum at two fifths; a narrow post-medial fascia, edged dark brown basally, but pale distally, from costa at two thirds to dorsum at three fifths; strongly excurved between one fifth and three fifths; a sub-terminal line consisting of seven large whitish dots, edged dark brown basally; a series of seven small dark brown terminal marks, chevron shaped and directed basally; reniform stigma a whitish figure of eight shape; orbicular stigma a small whitish dot. Hindwings pale buff, shaded with dark brown dorsally and towards tornus; medial and post-medial fasciae whitish, becoming clearer and somewhat broken towards dorsum; a row of terminal marks similar to forewing; underside with a dark orbicular spot basal to the discal mark.

The Genitalia (Figure 1b) are simple and lacking in specific diagnostic features. Valves simple, about five times as long as broad; angled ventrally at about one third; uncus strongly downcurved and swollen in second half; aedeagus (Figure 1c) with two weak cornuti.

**Female: Plate 25.** Wingspan 28mm. A single example is known. Body and wings as male, with palps and antennae simple. The genitalia show no diagnostic characters.

**Taxonomy:** The Herminiine species recorded from Fiji are described by Robinson (1975). *R. pulchripalpis* bears a superficial resemblance to the genera *Lophocoleus*, *Paleocoleus* and *Tholocoleus*, all of which he describes as endemic to Fiji. However, *R. pulchripalpis* can be clearly separated from these on the following characteristics; *Lophocoleus* and *Tholocoleus* exhibit modified male forelegs which are absent in the present species; all three genera are characterised by different forms of the male palps which are inconsistent with those of *R. pulchripalpis*; the male genitalia of all three have broad valves showing a variety of diagnostic processes.

Holloway (2008), reviews the Herminiine genera occurring in Borneo and more generally in South-East Asia and Australasia. *R. pulchripalpis* can be placed in his *Bertula* group of genera based on the dark orbicular spot on the underside of the hindwing, and the extremely long male palps recurved over the head to reach the thorax. It is placed in *Raphiscopa* based on the irregular forewing fasciae and the simple, narrow valves in the male genitalia.

**Diagnosis:** *R. pulchripalpis* is most closely related to *R. punctistigmata* sp.n. q.v. It can be distinguished by the larger size, and the general overall dull brownish colouration, compared to the more yellowish *R. punctistigmata*; also the stigmata are whitish compared to *R. punctistigmata* where they are dark blackish brown. Otherwise, *R. pulchripalpis* and *R. punctistigmata* appear to be most closely related to *R. albireniformis* Holloway, from Borneo, to which they are superficially very similar. However they can readily be separated by the shape of the valves in the male genitalia. In *R. albireniformis* these are broadly terminated with a small curved process dorsally, while in *R. pulchripalpis* and *R. punctistigmata* they are narrow, with no ornamentation. In *R. albireniformis* the aedeagus shows a single, curved cornutus while *R. pulchripalpis* shows two weak cornuti, and *R. punctistigmata* shows no cornuti.

**Etymology:** The name *pulchripalpis* refers to the spectacular appearance of the extended palps.

**Distribution:** Four males and one female taken in rain forest at 900m at Monasavu, Viti Levu.

**Holotype:** ♂ FIJI, Viti Levu, Monasavu, grid ref. N27/2618, 15.xii.1996, at light, J.A. Clayton.

**Paratypes:** ♀ and 2 ♂ FIJI, Viti Levu, Monasavu, grid ref. N27/2618. 30.x.1997, at light, J.A. Clayton.



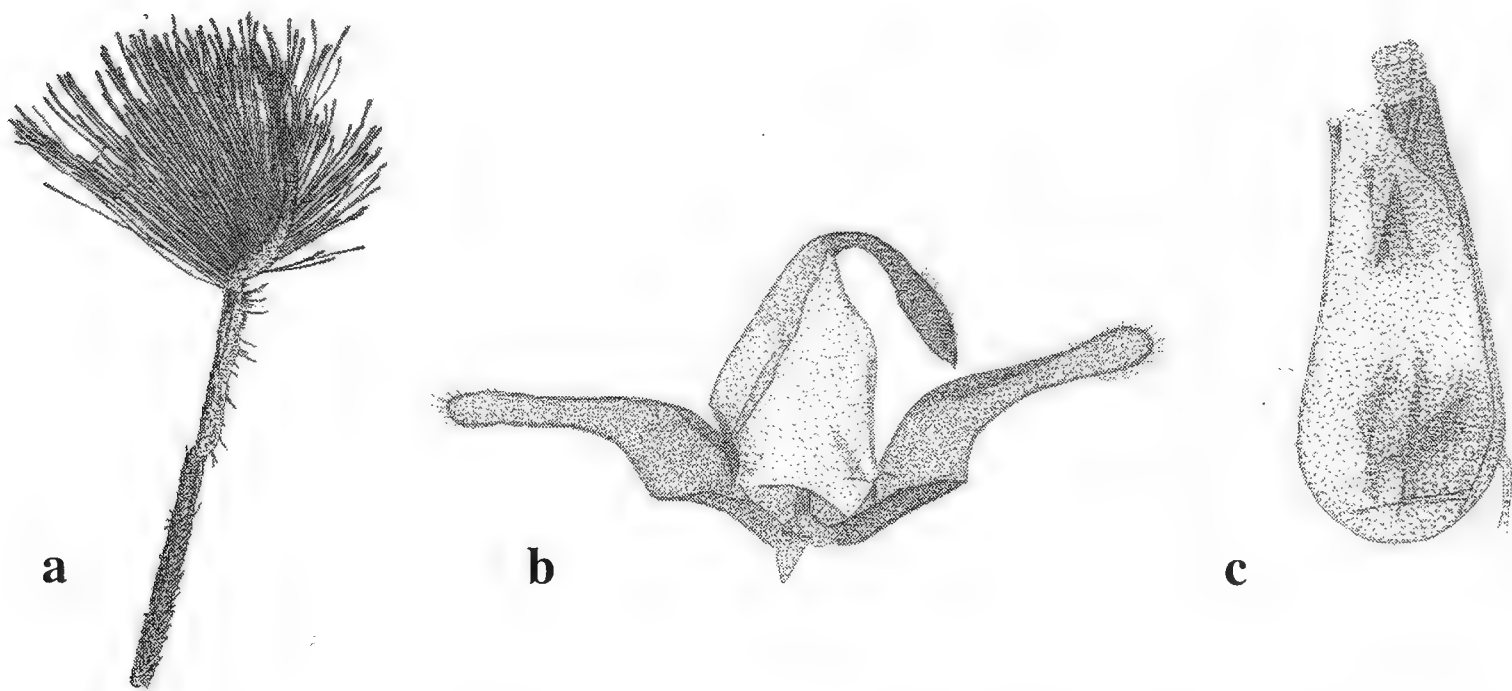


Figure 1. *Raphiscopa pulchripalpis* sp.n. (a) Labial palp, (b) genitalia and (c) aedeagus of male holotype.

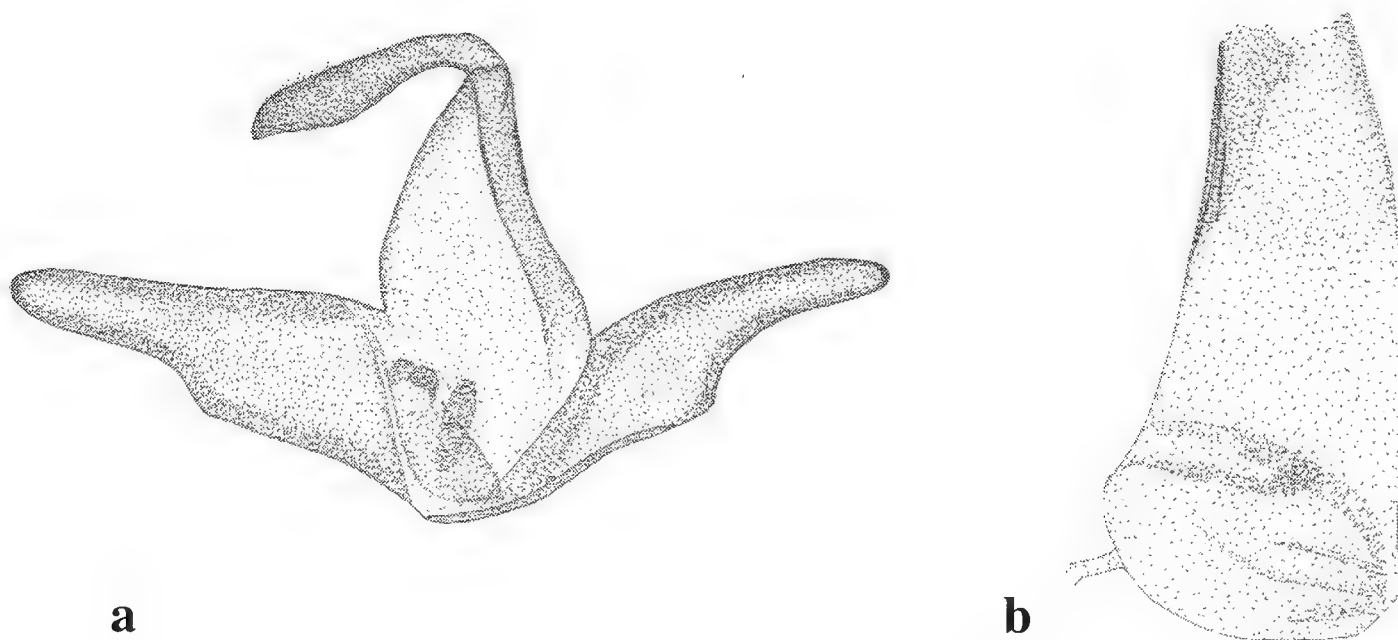
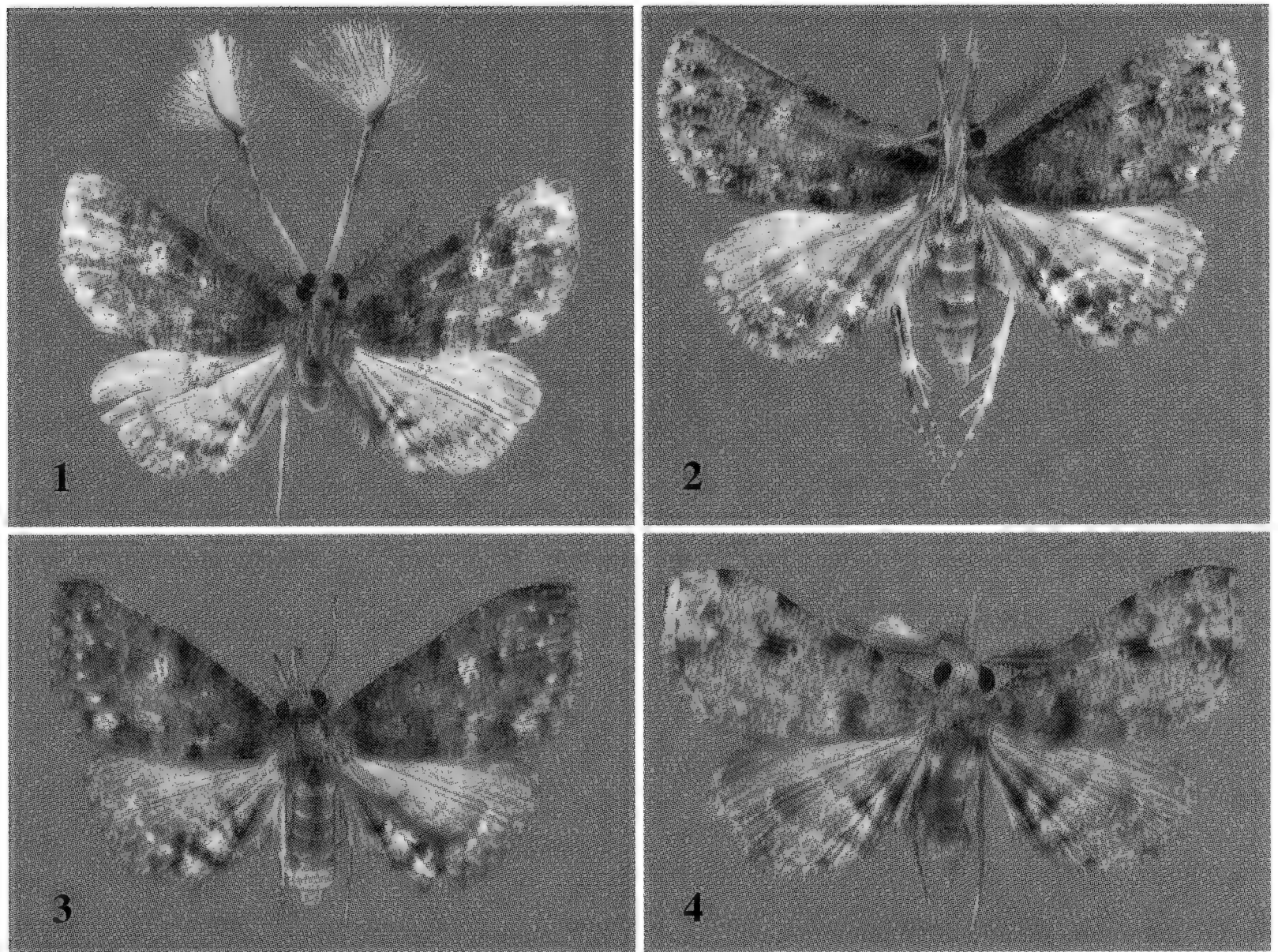


Figure 2. *Raphiscopa punctistigmata* sp.n. (a) Genitalia and (b) aedeagus of male holotype.

***Raphiscopa punctistigmata* sp.n.**

**Male: Plate 25, Fig. 4.** Wingspan 22 mm. A single example is known. Head, thorax, antennae and palps light yellowish brown flecked with darker brown. Abdomen darker brown with segments edged light buff. Antennae bipectinate. Labial palps extremely long, recurved over body reaching to thorax; third segment bearing a large hair tuft. Forewings broadly triangular; costa largely straight then bowed at four fifths; apex square; termen convex; yellowish buff lightly irrorated with dark brown; irroration becoming heavier in basal quarter; blackish marks on costa at one fifth, three fifths and four fifths; a large dark brown mark on dorsum at two fifths,



### Plate 25

1. *Raphiscopa pulchripalpis* sp.n. Holotype male – palps extended
2. *Raphiscopa pulchripalpis* sp.n. Paratype male – palps folded
3. *Raphiscopa pulchripalpis* sp.n. Paratype female
4. *Raphiscopa punctistigmata* sp.n. Holotype male – palps partially extended.

extending half way across wing; post-medial fascia indistinct and narrow, brown edged pale distally, from costa at three fifths to dorsum at two thirds; strongly excurved between one fifth and three fifths; sub-terminal fascia similar to post-medial, but more indistinct; a series of seven small dark brown terminal marks; reniform and orbicular stigmata well-defined dark brown dots, outlined in pale buff; reniform stigma followed by a square dark-brown mark. Hindwings buff, shaded somewhat darker dorsally; medial and post-medial fasciae whitish, becoming clearer towards dorsum; a row of small terminal marks similar to forewing; underside with well-defined black orbicular and discal spots.

The genitalia (Figure 2a) are simple and lacking in specific diagnostic features. Valves simple, about four times as long as broad; angled ventrally at about one half; uncus strongly downcurved and swollen in second half; aedeagus (Figure 2b) with little structure and no visible cornuti.

**Female:** Wingspan 22 mm. A single worn example is known. Antennae and palps simple. Wings similarly marked to the male. The genitalia show no diagnostic characters.

**Taxonomy:** The discussion under the previous species applies equally to *R. punctistigmata*.

**Diagnosis:** See the discussion under the previous species.

**Etymology:** The name *punctistigmata* refers to the form of the orbicular and reniform stigmata.

**Distribution:** One male and one female from two upland rain forest locations in Viti Levu, Fiji, at altitudes of 350m and 900m,

**Holotype:** ♂ FIJI, Viti Levu, Namosi Highlands, grid ref. N29/3978, 26.xi.1997, at light, *J.A. Clayton*.

**Paratype:** ♀ FIJI, Viti Levu, Monasavu, grid ref. N27/2121, 4.v.2006, at light, *J.A. Clayton*.

All types and genitalia slides of both species have been deposited in the National Museums of Scotland, Edinburgh.

### Acknowledgements

I would like to thank Dr K. P. Bland of the National Museums of Scotland for helpful discussions and advice, and for arranging access to the entomological collections and other facilities at the Museum. Also Dr Milika Naqasima-Sobey and staff of the School of Biological, Chemical & Environmental Sciences, the University of the South Pacific, Suva, Fiji for providing access to facilities at the University.

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**A NEW SPECIES OF *TELENOMUS* (*AHOLCUS*)  
(HYM., PLATYGASTROIDEA: SCELIONIDAE) FROM RUSSIA  
AND THE UKRAINE**

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**Abstract**

After examining the lectotype specimen of *Telenomus* (*Aholcus*) *coilus* Walker, it became evident that *Telenomus* (*Aholcus*) *coilus sensu* Kozlov & Kononova, 1983 is a previously undescribed species. The new taxon, *Telenomus* (*Aholcus*) *kononovae* sp.nov., is named in honour of Dr S.V. Kononova.

**Key words:** Hymenoptera, Scelionidae, new species, Russia, Ukraine.

**Introduction**

*Telenomus* species parasitize the eggs of a wide variety of insects in the orders Diptera, Hemiptera, Lepidoptera and Neuroptera. With one known exception, all species are primary parasitoids. Many of the hosts of *Telenomus* species are important pests in agriculture, forestry, and human and veterinary medicine. As parasitism rates in the field commonly exceed 50 per cent, *Telenomus* species are obviously important biological control agents. They have been successfully used for example to suppress outbreaks of *Oxydia trychiata* Guenée (Lepidoptera: Geometridae) in Colombia and of *Dendrolimus sibiricus* (Tschetverikov) and *Malacosoma neustria* L. (Lepidoptera: Lasiocampidae) in the former USSR (Johnson, 1984).

***Telenomus* (*Aholcus*) *coilus* (Walker, 1836)**

*Telenomus coilus* was described by Walker (1836) based on a female collected by A.H. Haliday at Holywood, Co. Down, Northern Ireland. Johnson (2011) wrongly assigned this record to the Republic of Ireland. The species was transferred to *Aholcus* Kieffer based on the number of antennal segments by Kieffer (1913). However *Aholcus* was subsequently relegated to subgeneric status in *Telenomus* by Nixon (1935). Kozlov & Kononova (1977) list the taxon as *Telenomus* (*Aholcus*) *coilus*. Kieffer's (1913) original concept of *Aholcus* may yet prove to be correct as Murphy *et al.* (2007) have shown that *Telenomus* is not monophyletic. Johnson (1992, 2010) and Mineo (2006) may be consulted for the main literature concerning *Telenomus* (*Aholcus*) *coilus* (Walker). Professor Giovanni Mineo and the authors have examined the lectotype of *T. (A.) coilus* from the A.H. Haliday Collection in the National Museum of Ireland. The specimen had the following labels: (1) "107" written in Haliday's hand on a small white rectangular label; (2) "coilus" written in Haliday's hand on a small white rectangular label; (3) "Type" in red printed on a



small rectangular label with "M. de V. G" handwritten on it in M. W. R. de V. Graham's hand; "478" written in Graham's hand on a small white rectangular label and finally (5) a white rectangular label with "Telenomus coilus Walker M. de V. Graham det 1986, Lectotype ♀". The text shown in bold is printed and the remainder is in Graham's hand. The antenna, forewing and hindwing of the lectotype of *T. coilus* are shown (Figs 1-3) and it is evident that there is no pigmented basalis as shown in Kozlov & Kononova (1983) (see *Telenomus (Aholcus) kononovae* sp.n. below). In addition, A2 is as long as A3. It has not been possible to borrow any of the original material of *T. (A.) coilus sensu* Kozlov & Kononova [= *T. (A.) kononovae* sp.n.] but their description and illustrations (reproduced here) in combination with the data given in this paper are sufficient for separating the two species.

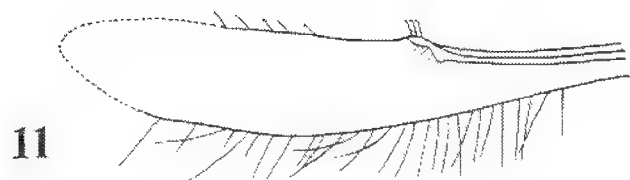
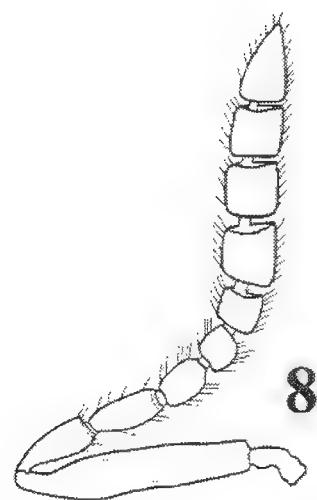
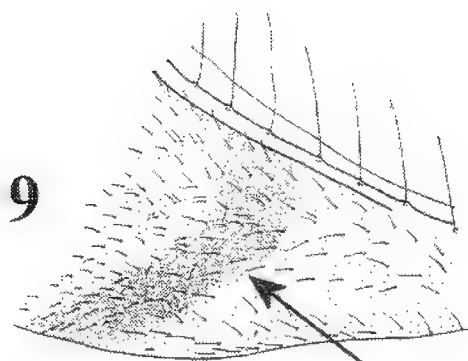
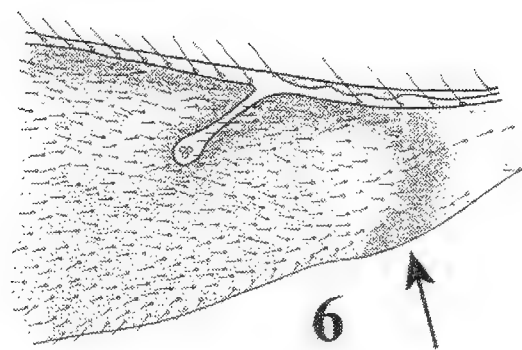
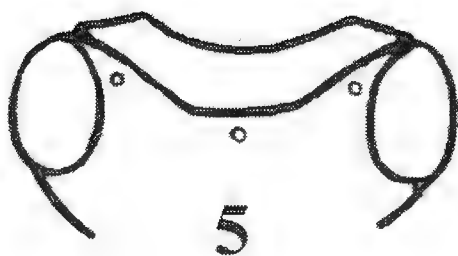
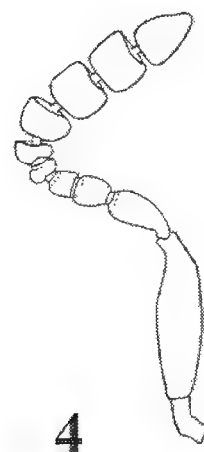
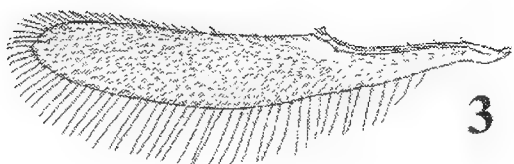
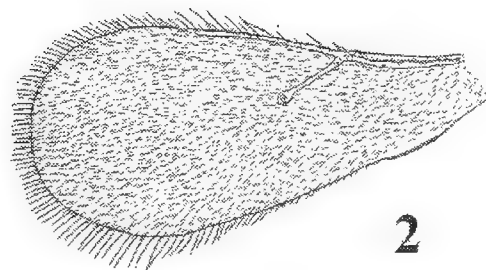
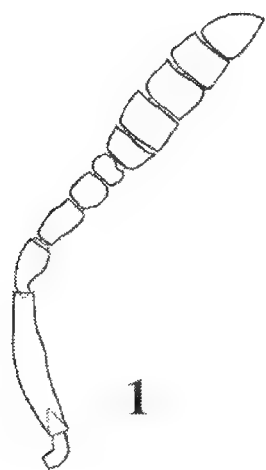
***Telenomus (Aholcus) kononovae* sp. nov.**

*Telenomus (Aholcus) coilus*: Kozlov & Kononova, 1983. Zoological Institute of the Academy of Sciences of the USSR, No. 136: 303-305.

**Diagnosis**

With *Telenomus (Aholcus) xeneus* Kozlov & Kononova, *T. (A.) kononovae* sp. nov. is the only other known Palaearctic species with the forewing crossed by a pigmented basalis in the form of a streak which is darker than the rest of the plane of the wing (Figs 6 & 9). The stigmal vein in the forewing is of similar length in both *T. (A.) xeneus* and *T. (A.) coilus* but is noticeably shorter in *T. (A.) kononovae* sp. nov. (Figs 2, 7 & 10). In addition, while in *T. (A.) coilus* and *T. (A.) xeneus*, the pedicel (A2) of the female antenna is equal or nearly equal in length to the first segment of the funicle (A3), A2 is much longer than A3 in *T. (A.) kononovae* sp. nov. (Figs 1, 4 & 8). In *T. (A.) coilus*, A6 is similar but subequal to A7 while in the two other species, A6 is noticeably smaller than A7. The other characteristics are given in Kozlov & Kononova (1983). The male, host and biology are unknown.

The following specimens were mentioned by Kozlov & Kononova (1983):-  
 Материал. Украина: Ворошиловградская обл., Новая Ильенко, лойма р. Деркул, 10 VI 1972 (Кононова), 1 ♀; Херсонская обл., Черноморский заповедник, Соленоозерный участок, 5 VI 1971 (Кононова), 1 ♀; хранятся в коллекции ИЗАНУ. Алтай, Кош-Агач, 22 VII 1964 (Козлов), 3 ♀. Хранятся в коллекции ЗИН. This text translates as: Material. Ukraine: Voroshilovgradskaya Oblast, Novaya Il'enko, catchment of the River Derkul, 10 VI 1972 (Kononova), 1 ♀; Khersonskaya Oblast, Chernomorskii Nature Reserve, Solenoozernyi sector, 5 VI 1971 (Kononova), 1 ♀; deposited in the collections of the IZANU [Institute of Zoology of the Ukrainian National Academy of Sciences, Kiev]. [Russia]. Altai [Republic]. Kosh-Agach, 22 VII 1964 (Kozlov), 3 ♀. Deposited in the collections of the ZIN [Zoological Institute of Russian Academy of Sciences, St Petersburg]. Supplementary information is given in square brackets.



All the above specimens are designated as syntypes of *Telenomus (Aholcus) kononovae* sp. nov. as it has not been possible to borrow any of the original material. This procedure satisfies article 73.2.1. of the *International Code of Zoological Nomenclature* (International Trust for Zoological Nomenclature, 1999, Fourth Edition) which states “Syntypes may include specimens labelled “cotype” or “type” (both used in the meaning of syntype), specimens with no identifying label, and specimens not seen by the author but which form the bases of previously published descriptions or illustrations upon which the author founded the new nominal species-group taxon in whole or in part. The relevant section is given in italics.

### Distribution

The species is only known from Asiatic Russia (Altai Republic) and the Ukraine.

### Etymology

The species is named in honour of Dr S.V. Kononova, Institute of Zoology, Kiev, Ukraine.

### Acknowledgements

The authors are indebted to Professor Giovanni Mineo, Palermo, Sicily, for bringing this new species to our attention and for his help in the preparation of this paper. We also wish to thank Martin Spies of the Zoologische Staatssammlung Muenchen, Germany, for his assistance in determining the correct procedure to follow in order to comply with the *International Code of Zoological Nomenclature* (1999).

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**Figure 1.** The antenna of the ♀ lectotype of *Telenomus (Aholcus) coilus* (Walker); **Figure 2.** The forewing of the ♀ lectotype of *Telenomus (Aholcus) coilus* (Walker). The basalmost part of the wing is missing in the slide preparation; **Figure 3.** The hindwing of the ♀ lectotype of *Telenomus (Aholcus) coilus* (Walker); **Figure 4.** The antenna of *Telenomus (Aholcus) kononovae* sp. nov. (after Kozlov & Kononova, 1983); **Figure 5.** The head of *Telenomus (Aholcus) kononovae* sp. nov. (after Kozlov & Kononova, 1983); **Figure 6.** Section of the forewing of *Telenomus (Aholcus) kononovae* sp. nov. showing the pigmented basalis (↑) (after Kozlov & Kononova, 1983). **Figure 7.** Detail of the forewing of *Telenomus (Aholcus) kononovae* sp. nov. (after Kozlov & Kononova, 1983); **Figure 8.** Antenna of *Telenomus (Aholcus) xeneus* Kozlov & Kononova (after Kozlov & Kononova, 1983); **Figure 9.** Section of the forewing of *Telenomus (Aholcus) xeneus* Kozlov & Kononova showing the pigmented basalis (↑) (after Kozlov & Kononova, 1983); **Figure 10.** Detail of the forewing of *Telenomus (Aholcus) xeneus* Kozlov & Kononova (after Kozlov & Kononova, 1983); **Figure 11.** Hindwing of *Telenomus (Aholcus) xeneus* Kozlov & Kononova (after Kozlov & Kononova, 1983).

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### ***Adela croesella* (Scop.) (Lep.: Adelidae): new to Hertfordshire**

Although no county list of moths can ever be regarded as complete, the south-east England county of Hertfordshire is comparatively well-recorded. A complete inventory of species recorded for all time has been published (Plant, 2008. *The Moths of Hertfordshire*. HNHS). We were both, therefore, independently pleased to capture a specimen of *Adela croesella* – a new species for the county. The pleasure was diminished marginally by the realisation, on the part of each of us, that the other had also caught the same species, but interest was immediately restored when we discovered that we had both done so on the same date! The capture details are as follows:

Braughing, Hertfordshire (VC 20) O. S. grid reference TL 4224, 25.v.2011, 1♂ at actinic light, leg. Ben Sale;

Bramfield, Hertfordshire (VC 20) O. S. grid reference TL 289156, 25.v.2011, 1♀, leg. Andrew Wood.

The voucher specimens for both records are now in the collection of Colin W. Plant.

It is interesting that two specimens, one of each sex, were caught on the same date as each other some 17 kilometres apart in a well-worked county where it has never previously been recorded. This surely suggests that it is an overlooked resident? The larvae are reported to utilise on Buckthorn (*Hippophae*), Ash (*Fraxinus*) and possibly privet (*Ligustrum*), feeding first in the seeds and then on fallen leaves (Emmet, 1991. *Chart showing the life history and habits of the British Lepidoptera* In Emmet & Heath, [Eds.] *The Moths and Butterflies of Great Britain and Ireland* volume 7, part 2. Harley Books). — ANDREW WOOD, 93 Bengeo Street, Hertford, SG14 3EL (E-mail: [zoothorn@ntlworld.com](mailto:zoothorn@ntlworld.com)) & BEN SALE, High View, Braughing Friars, Ware, Hertfordshire SG11 2NR (E-mail: [ben@bensale.orangehome.co.uk](mailto:ben@bensale.orangehome.co.uk)).



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## LONG-TERM CHANGES IN THE ABUNDANCE AND PHENOLOGY OF *HOPLIA PHILANTHUS* (FUESSLY) COL: SCARABAEIDAE AT SILWOOD PARK

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### Abstract

The chafer beetle *Hoplia philanthus* was studied using data from the Rothamsted Insect Survey suction trap at Silwood Park, Berkshire in the years 1973-1976, 1979-1989 and 2000-2009. It underwent a step-change in abundance in 1989 and remained at this higher abundance when trapping resumed in 2000.

**Keywords:** Scarabaeidae, phenology

### Introduction

*Hoplia philanthus* is a pest of sport turf, lawns, pastures and horticultural crops, particularly in Belgium but also elsewhere in Europe including the UK (Ansari *et al.*, 2006). Its common name of Welsh chafer may reflect the historical distribution in Britain, which Hill (2008) gives as Wales and western England, though Thomas & Heal (1944) note that in an unpublished Ministry of Agriculture monthly summary Fox Wilson reported swarms in Ascot, Berks in 1939. The ecology and biology are little known beyond the basic life cycle. *Hoplia philanthus* is known to like sandy soil and the larvae can be found in newly grown turf (Ansari pers. comm.). They are chiefly found in hilly or mountainous regions (Harde, 1981) and the lifecycle takes two years to complete, spread over three calendar years (Ansari, 2006) though this may vary with climate.

### Methods

The Rothamsted Insect Survey (RIS) has used suction traps to monitor aphids in the UK since 1965 (Macaulay *et al.*, 1988, Harrington & Woiwod, 2007). The aphids are routinely separated and identified and the bycatch has been stored. Samples are stored in 95% ethanol with 5% glycerol, the presence of glycerol prevents complete dessication and samples that have dried have been successfully rehydrated. Samples from Silwood Park are available for the years 1973-1976; 1979-1989 and 2000 onwards. Temperature and rainfall data from the met station at Wisley was regressed against annual abundance and first record date.

### Results

Between 1973 and 1988 the average number of beetles caught per year was 16 (between 1 and 86 per year). Numbers caught rose to 540 in 1989 and, after a 10 year hiatus in trapping the average number caught per year in 2000-2009 was 305

Year	Annual Total	Total Males	Total Females	First record
1973	16	8	8	1 July
1974	8	2	6	9 July
1975	1	1	0	30 June
1976	86	62	24	22 June
1977-8	No data	No data	No data	No data
1979	6	4	2	3 July
1980	10	4	6	3 July
1981	1	0	1	8 July
1982	4	0	4	5 July
1983	8	2	6	8 July
1984	12	8	4	19 June
1985	14	7	7	1 July
1986	24	16	8	27 June
1987	18	11	7	29 June
1988	16	8	8	21 June
1989	540	367	173	12 June
1990-9	No data	No data	No data	No data
2000	58	42	16	17 June
2001	692	521	171	11 June
2002	38	33	5	18 June
2003	456	320	136	15 June
2004	183	89	94	7 June
2005	676	538	138	17 June
2006	359	249	110	11 June
2007	5	0	5	7 June
2008	108	98	10	23 June
2009	240	168	72	15 June

Table 1. Total *Hoplia philanthus* caught at Silwood Park and date of first emergence between 1973 and 2009.

(5-692 per year) (Table 1). In general, males outnumbered females (2557 males, 1009 females) though this did not hold true for all years, in fact in years of low abundance females often outnumbered males. First date of emergence (Table 1) is

significantly earlier for the 2000s than for the 1980s ( $P < 0.001$ ). There is some evidence that emergence date is related to autumn ( $P < 0.01$ ) and winter ( $P < 0.001$ ) temperatures prior to emergence.

### Discussion

The reason behind the striking change in abundance is unclear. Prior to 1989 the highest numbers caught were in 1976, a year that also stood out for other beetles, most notably the Coccinellids (Majerus & Kearns, 1989). There have been no major changes in management at the site since 1979 when agriculture at the site was discontinued, other than the small-scale cultivation of arable weeds, herbicide and insecticide application dropped essentially to zero, and they have stayed at very low levels since (Crawley pers. comm.). The autumn and winter prior to emergence is the period when *H. philanthus* larvae are known to move deeper into the soil to avoid the frost (Ansari *et al.* 2006). If the temperature is higher during this period, it may be that the larvae are not retreating so far into the soil and are therefore more likely to be able to feed through the winter and thus begin pupation earlier in the spring, which would explain the relationship between temperature in those periods and first emergence date. Higher winter temperatures may also lead to a quicker metabolic rate in the larvae, which could result in earlier pupation. Silwood Park is a lowland site in the East of England, thus the distribution of *H. philanthus* given by Harde (1981) and Hill (2008) needs to be revised. It should, however, be noted that the National Biodiversity Network website for this species reflects a more general distribution in the UK for this species (<http://data.nbn.org.uk/>). *Hoplia philanthus* only occurs at very low numbers in the other traps in the network, thus the abundance at Silwood is certainly notable.

### Acknowledgements

The authors are indebted to Duncan Sivell for making the initial identification of this species in the RIS trap samples, noting the potential interest of its presence and his helpful comments on the manuscript and also to Jim Ashby for his help in determining the sex of the beetles. We also thank the trap operators and RIS staff. Rothamsted Research is grant-aided by the UK Biotechnology and Biological Sciences Research Council.

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### **Brown-tail *Euproctis chrysorrhoea* (L.) (Lep.: Noctuidae) larvae feeding on Pedunculate Oak *Quercus robur* and Red Oak *Quercus rubra* in southern Britain**

We are aware of seven confirmed reports of larvae of *E. chrysorrhoea* observed feeding on species of oak (Fagaceae) at widely separated localities in southern Britain, all since 2007. Two of these discoveries were made as a result of surveys for Oak Processionary Moth *Thaumetopoea processionea* (L.) by the authors on behalf of the Forestry Commission.

On 7.v.2009, MCT was informed by Forest Research of a report from a member of the public concerning an infestation of caterpillars on oak trees in the grounds of Southwark Cathedral, London. On 8.v.2009, RP surveyed the site and found a planting of four early mature Fastigate Oak *Q. robur* f. *fastigiata* in a public area near a restaurant, containing large numbers of *E. chrysorrhoea* larvae, with extensive webbing and defoliation. One tree had been completely defoliated and two showed roughly 50% defoliation. Larvae were observed on the railings and pavement *en route* from the defoliated tree to another. On 30.v.2009, RP and NL found *E. chrysorrhoea* webs and larvae on a semi-mature Northern Red Oak *Quercus rubra* in the pavement of Twickenham Road, Hounslow (Middlesex) during surveys for *T. processionea*. This tree also contained webbing and exuviae of larvae of the Lackey *Malacosoma neustria* L.

On 6.v.2010, MCT observed two larval webs of *E. chrysorrhoea* in the crowns of spreading scrubby 5-6m high *Q. robur* near West Wittering, West Sussex. Several larvae and exuviae were visible on the outside of one web. The trees were situated at the edge of an inlet near the mouth of Chichester harbour (OS grid reference SZ 768985). *E. chrysorrhoea* webs were also present on low Common Hawthorn *Crataegus monogyna* scrub nearby.

In addition, the Tree Health Diagnostic and Advisory Service of Forest Research (Forestry Commission) have received authenticated reports of Brown-tail on oak from Shoreham-by-Sea, West Sussex on 26.iv.07, Brightlingsea, Essex in April 2007, Ringwood, Dorset on 4.v.2011 and near Diss, Norfolk in May.

None of the modern guides to larger British moths mention oak as a foodplant of this species and we know of no previous recorded instance of *E. chrysorrhoea* feeding on oak in Britain. A range of woody species is generally indicated, but



mainly Rosaceae including hawthorns (*Crataegus*), Sloe, plums, and cherries (*Prunus*), rose (*Rosa*), Apple (*Malus*), Pear (*Pyrus*) and bramble (*Rubus*). Outside the Rosaceae, Sea-buckthorn *Hippophae rhamnoides* (Elaeagnaceae) and willows/sallows *Salix* (Salicaceae) are given. Crafer (2005, *Foodplant list for the caterpillars of Britain's butterflies and moths*. Atropos Publishing) includes all of the above plus Hop *Humulus lupulus* (Cannabaceae). Older British works consulted including Allen (1949. *Larval foodplants*. Watkins & Doncaster) do not include oak for *E. chrysorrhoea*.

However, oak is recognised as a foodplant of *E. chrysorrhoea* in continental Europe. Robineau *et al.* (2007, *Guide des papillons nocturnes de France*. Delachaux et Niestlé) list *Quercus* and also elms *Ulmus* (Ulmaceae) whilst Leraut (2006, *Moths of Europe*. NAP) in addition to various Rosaceae, willows and Sea-Buckthorn mentions 'oak and other broadleaves'.

*E. chrysorrhoea* has recently expanded its geographical range, with plagues of larvae occurring much further north than hitherto (Waring, Townsend & Lewington, 2009. *Field guide to the moths of Great Britain and Ireland*. 2<sup>nd</sup> edition British Wildlife Publishing). Plant (*Ent. Rec.* 3: 146) notes a further apparent increase in 2011. Some moth species are known to be less polyphagous close to the edge of their range (Majerus, 2002 *Moths*. HarperCollins). Therefore, the adoption of *Quercus* species in the UK seems a likely consequence of the expansion, or possibly the result of colonisation by continental immigrants already adapted to oak. The increased abundance of larvae provides greater opportunity for observation, but since they are so conspicuous they seem unlikely to have been overlooked on oak before.

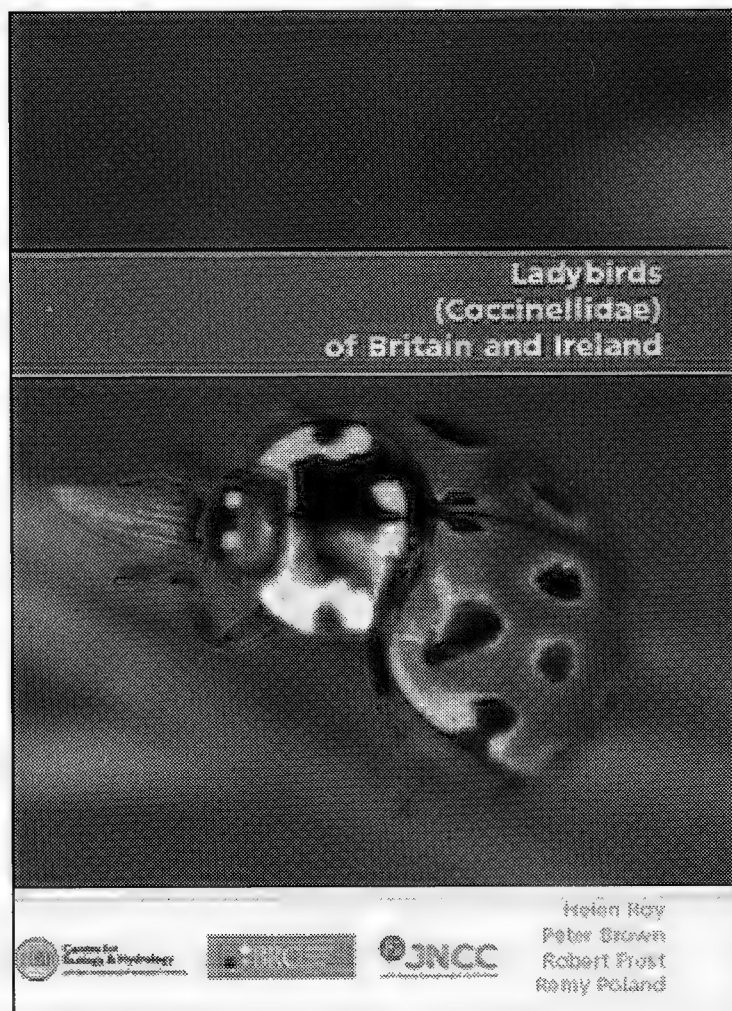
We would like to thank Christine Tilbury and Nigel Straw of Forest Research for providing information. — MARTIN C. TOWNSEND, 26 Bartholomew Road, Oxford, OX4 3QQ and RALPH PARKS & NITTAYA LAWRENCE, Longcross House, Shaftesbury, Dorset SP7 8QP.

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## BOOK REVIEW

**Ladybirds (Coccinellidae) of Britain and Ireland** by **Helen Roy, Peter Brown, Robert Frost and Remy Poland**. 198pp., including numerous colour photographs and distribution maps, 175 x 245 mm, softbound, published for the Biological Records Centre, Wallingford, OX10 8BB, 2011. ISBN: 978 1 906698 20 1. £19.50 plus £3.50 UK post and packing. Orders can be made by post (cheques payable to 'Natural Environment Research Council') or via e-mail on [cehcomms@ceh.co.uk](mailto:cehcomms@ceh.co.uk) (please include your daytime telephone number so that you can be called for your card details).



Over the years there has been a steady stream of publications that presented to the reader the distribution patterns of various invertebrate groups in the British Isles. As time has moved on, the style of these has developed markedly and their presentation has improved in leaps and bounds; what started as a set of very useful but phenomenally boring black and white dot distribution maps has metamorphosed into an infinitely more readable guide to the group covered. With the present 'Ladybird Atlas' we have perhaps reached the pinnacle of this specialist area of biological publishing.

This thoroughly readable work is the first ever distribution atlas of ladybirds in the British Isles; the entire of Ireland is

included. Distribution maps, which use coloured dots to show changes, are presented at full page size for all 47 species and with the exception of only *Rhyzobius lophanthae* all species are illustrated by at least one colour photograph – sometimes more. Phenograms present visually the times of year when each species is evident and a concise yet comprehensive text discusses each species. Extra chapters discuss 'Occasional species and potential new arrivals' (illustrating these with colour photographs) then 'Natural enemies of ladybirds' – also well-illustrated in colour. There is a word or two about ladybird recording and the expected Glossary of technical terms used – these are kept to a minimum in any case. The introductory chapters are thoroughly comprehensive and this work, without any 'dumbing down' is very easy reading.

There are a few minor niggles. The photograph at Fig. 212 of *Cynegetis impunctata* looks suspiciously like a spotless form of *Subcoccinella 24-punctata* and the reference cited (Thomas *et al.*, 2008), does not seem to exist in the journal quoted. However, this probably matters little in practice terms, since the identification of such a rare species based solely on colour would be unacceptable. The only thing that is really missing from this work is an identification key, but in spite of the comment just made, most species can be recognised on colour pattern alone, whilst those that cannot are adequately discussed in the text.

The work is offered 'in celebration of Professor Michael Majerus' – an outstanding evolutionary biologist based at Cambridge University, expert on Coccinellidae and all round good egg, who died far too young during 2009. It is a key publication that is beyond doubt an essential weapon in the armoury of all British coleopterists – not just those enthused by ladybirds – but it is also essential reference for ecologists, biologists and especially amateur entomologists. It is a sound model upon which future works on other taxonomic groups can be based.

Colin W. Plant

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THE CENTENARY OF JAMES WILLIAM TUTT

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*“Whose life was work, whose language rife,  
With rugged maxims hewn from life;  
Who never spoke against a foe” (Tennyson)*

**In 1890 James William Tutt founded this journal** and he remained as its Editor until his death twenty one years later on 10 January 1911. Nearly the whole edition of the May 1911 issue of the ‘*Record*’ was devoted to the memory of this ‘truly great man’ and the centenary of his death cannot pass without comment.

No less than twenty-seven friends and colleagues wrote memoirs of Tutt in those pages of the ‘*Record*’; their names read like a *Who’s Who* of British entomology of the time with foreign luminaries such as Charles Oberthür thrown in for good measure. A bibliography running to sixteen pages and including over four hundred entries testifies to his extensive output of papers on entomology. His major works included amongst these are *The British Noctuae and their Varieties* in four volumes, 1891-92 and the *Natural History of the British Lepidoptera* 1890-1911. Tutt also wrote in a more popular style *British Butterflies* and *British*

*Moths*, both published in 1896 as well as *Woodside, Burnside, Hillside and Marsh*, (1894) *Random Recollections of Woodland, Fen and Hill*, 1895 and my personal favourite, *Alpine Valleys*, 1895. His *Practical Hints for the Field Lepidopterist* (three parts, issued in 1901), has been published as a facsimile volume recently by the Amateur Entomologist's Society (AES) and is still most useful today.

Re-reading the 1911 '*Record*' one comes across the same themes time and again. Perhaps these can be summarised thus. He was a prodigious worker with a meticulous eye for detail in both his professional and entomological life. He was candidly outspoken, perhaps didactic in his earlier years, but won over those he perhaps initially offended by his outspokenness with his downright sincerity and strongly sympathetic nature. He fostered and encouraged young entomologists and in his professional life, his pupils, and set a very high standard which he expected all to follow. He did not suffer fools gladly.

I will quote a telling passage from the the Rev George Wheeler, who went on to complete a volume of *British Lepidoptera* after Tutt's death, telling of their first meeting. They were all staying at Simplon in 1899. 'On the evening of the day when I first met him and Dr Chapman they asked me to come and see them at the Fletscham Hotel ... and in the course of conversation mention was made of *Erebia flavofasciata*. 'What's that?' I asked, 'I have never heard of it.' Mr Tutt slightly raised his eyebrows and did *not* explain. The action was not very noticeable, the silence perhaps even less so, for Dr Chapman enlightened my ignorance, but it was enough; and any knowledge I may have acquired beyond that of the most ignorant of 'mere collectors,' and any little position I may have in the entomological world, are due, wholly and solely, to the expression on Mr. Tutt's face on that never-forgotten occasion.'

Tutt's life was remarkable even by the standards of work ethic and achievement of his time. He was born in Strood, North Kent on 26 April 1858, becoming a pupil teacher at thirteen years old and then working for the London Education Authority. At the time of his death he was headmaster of Morpeth Street London County Council Central School and involved in major educational initiatives. He married Frances and had five children of whom the eldest boy, James Herbert, assisted with editing the *Record* towards the end of his father's life when the Editor-in-Chief suffered ill health. In addition to his day job, he commenced teaching sciences every evening of the week at Greenwich and Woolwich. These winter courses ended each May, at which time he replaced them with field entomology. His will shows he had accumulated considerable wealth also, as he left twenty four houses! From the time he moved to London he quickly became involved in the entomological scene. He joined the South London Entomological Society (now the British Entomological & Natural History Society) and was President in 1898. He was President of the City of London Entomological Society (a fore-runner of the London Natural History Society) from 1896 to 1899 and at the time of his death he was President-elect of the British (now Royal)





J.W. Tutt collecting Lepidoptera at Versoix, near Geneva, Switzerland *circa* 1909.

Entomological Society and was about to follow his heroes Lord Walsingham and Professor Poulton as President. In all of these societies he played a prominent part in debates and initiatives. He was foremost in the great tradition of British entomology – that amateurs are the true professionals. He had formed a comprehensive personal collection of Lepidoptera on which much of his work was based. Towards the end of his life his interests shifted towards European insects and he travelled and collected extensively in the Alps.

Tutt had a reputation for being acerbic; Robert Adkin tells of a conversation in which Tutt made the following admission ‘Yes, I know I am often brutal in the way I put things, but I can’t help it, and you know I am right.’ But he is remembered by G. T. Bethune-Baker as ‘gentle as a child dealing with an adverse opinion’. The reality seems to be that he was a lover of truth who found mis-statements or inaccurate observations abhorrent.

He died of heart failure attributed to over work, after some years of illness. In his lifetime he was known across Europe as the greatest English authority on entomology and kindred pursuits; but what of his legacy? How do we view him a hundred years later?

Well, amongst my friends we employ the phrase ‘*What would Big Jim do now?*’ and I note a biographical entry regarding him in the ‘*Guide des papillons nocturnes de France*’ published in 2007, so he is certainly not forgotten. I think

during his lifetime and for some years afterwards his precepts were not only followed, but invigorated entomology. I am not sure that that is still the case.

He was interested in variation within species and one of his major works was on that subject which has now somewhat fallen out of fashion. However, as Professor W. Bateson remarked 'having set out to collect the details (of variation) he collected them all... the collection is made and need never be made again.'

In the field of Lepidoptera in particular we are beset with 'mere collectors', albeit with a camera rather than killing bottle for the most part, who 'seem never to have had the slightest practical acquaintance with the insects of which they write', to adapt one of Tutt's best known sayings. Tutt believed strongly in the importance of thorough research and in the use of literature. As Louis B. Prout said, 'He it was, too, who first sent me to the literature... I was told, in Mr. Tutt's own dogmatic but highly effective style, that I could do nothing with the question until I had learned all that Linné said and meant about it, and all that Borkhausen said, and Haworth, and Lederer, and in fact every lepidopterist who ever put pen to paper. And what Mr. Tutt preached he conscientiously practised.' How many of us today, when easily accessible libraries and the Internet make such research so much easier, can claim to take this amount of trouble, or even to know who our predecessors were? It was also Tutt who urged Lepidopterists to put away their nets and traps and concentrate on the early stages for two years. How many of us have done that, and in particular, how many who have only recently become interested in Lepidoptera have done that?

It may be felt that many of the questions which preoccupied lepidopterists a hundred years ago have been resolved; most life histories are known, most taxonomic questions are resolved, so is Tutt relevant today? Well ... thoroughness and meticulous observation will always be relevant and many questions are still unanswered. There are still taxonomic problems within the British fauna, with few amateurs taking the slightest interest in resolving them. There are still life histories which are imperfectly known at best, still plenty for the amateur to do in addition to merely trapping and recording. Tutt did his utmost to raise entomology from a mere collecting pastime to a science, and he had little sympathy with anyone who did not regard it as such. How much sympathy would he have had with today's obsession with recording, in particular with the level of inaccuracy with which it is bedevilled? Although there is merit in establishing the distribution of species in more detail, and comparative analysis can be based on such data, is this not for the most part 'mere collecting' in another guise?

A major preoccupation today is conservation, and rightly so, but I cannot help contrasting Tutt's 1896 masterly and direct summation of the decline of the Large Blue (*The Gradual Decadence of Lycaena arion*) with the often mealy mouthed 'newspeak' of today's conservation industry with its many words, much money and little good. Tutt was opposed to legislation on conservation and advocated locally based practical conservation measures; how would he have seen today's

complex and often Europe wide legislation, especially that which is species-based and can be seen as ignoring the true status of the insects in question?

Our three main entomological societies, the Royal, British and Amateur, all suffer from recruitment and retention difficulties, especially amongst young adults who one might expect to be the entomologists of the future. One wonders how Tutt, with his untiring concern and undeniable talent for the education and motivation of the young would have faced this lamentable situation. We need a new Tutt to talk straight and to wake us all up. If we can't have that we should at least revisit his writings, read his books and those twenty one years of the 'Record' and let his spirit invigorate us.

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## ANNOUNCEMENT

The British Entomological & Natural History Society is pleased to announce that their latest publication *British Plume Moths* by Colin Hart will be published in November this year and is expected to be available at the Annual Exhibition on 5 November. For details, visit [www.benhs.org.uk](http://www.benhs.org.uk)

## MOTHS COUNT MILESTONES

Z. RANDLE, L. HILL AND R. FOX

*Butterfly Conservation, Manor Yard, East Lulworth, Wareham, Dorset BH20 5QP.*

### Abstract

During 2007, the ambitious *Moths Count* project was launched by Sir David Attenborough. This paper summarises the activities and outcomes of the Moths Count project and the establishment of a National Moth Recording Scheme for the United Kingdom.

**Keywords:** Lepidoptera, distribution, recording schemes, conservation.

### The National Moth Recording Scheme

During 2007, the ambitious *Moths Count* project was launched by Sir David Attenborough. Led by Butterfly Conservation, this partnership project aimed to raise the profile of moths and moth recording throughout the UK, Isle of Man and Channel Islands and to establish a National Moth Recording Scheme (NMRS).

The need for a National Moth Recording Scheme was highlighted in *The State of Britain's Larger Moths* (Fox *et al.*, 2006) which reported decreasing population trends for two-thirds of the UK's common and widespread macro-moths and an alarming decline in total moth abundance of one-third since the late 1960s. The collation of local moth records into a national database would enable national distribution maps to be produced in order to assess change to all macro-moth species and to target conservation action. Distribution records underpin almost all efforts to reverse significant declines.

After several years of tremendous effort by County Moth Recorders and the moth recording community, a National Moth Recording Scheme has been set up and will be sustained by Butterfly Conservation in the long-term. At the start of the Moths Count project many vice-counties did not have a computerised dataset. Indeed, 34 vice-counties did not have an active County Moth Recorder and there were fears that some counties would not be able to contribute towards the NMRS. However, due to the dedication and enthusiasm of the moth recording community, many people volunteered either to be the local County Moth Recorder or to help computerise hundreds of thousands of moth records. A full complement of County Moth Recorders was established and remains in place today; the list can be viewed at [www.mothscount.org/text/57/county\\_moth\\_recorders.html](http://www.mothscount.org/text/57/county_moth_recorders.html).

The high point of the NMRS to date was undoubtedly the publication of the *Provisional Atlas of the UK's Larger Moths* (Hill *et al.*, 2010). This breakthrough production was generated from the 11.3 million moth records held in the NMRS database at the time. Data were received from all UK vice-counties, the Channel Islands and the Isle of Man. It is the result of decades of recording and survey effort by the moth recording community. The book features the first up-to-date distribution maps in 30 years for 868 macro-moth species. The maps for the Geometridae (over 300 species) are the first ever to be published. The *Provisional Atlas* is an important step forward in our understanding of moths.

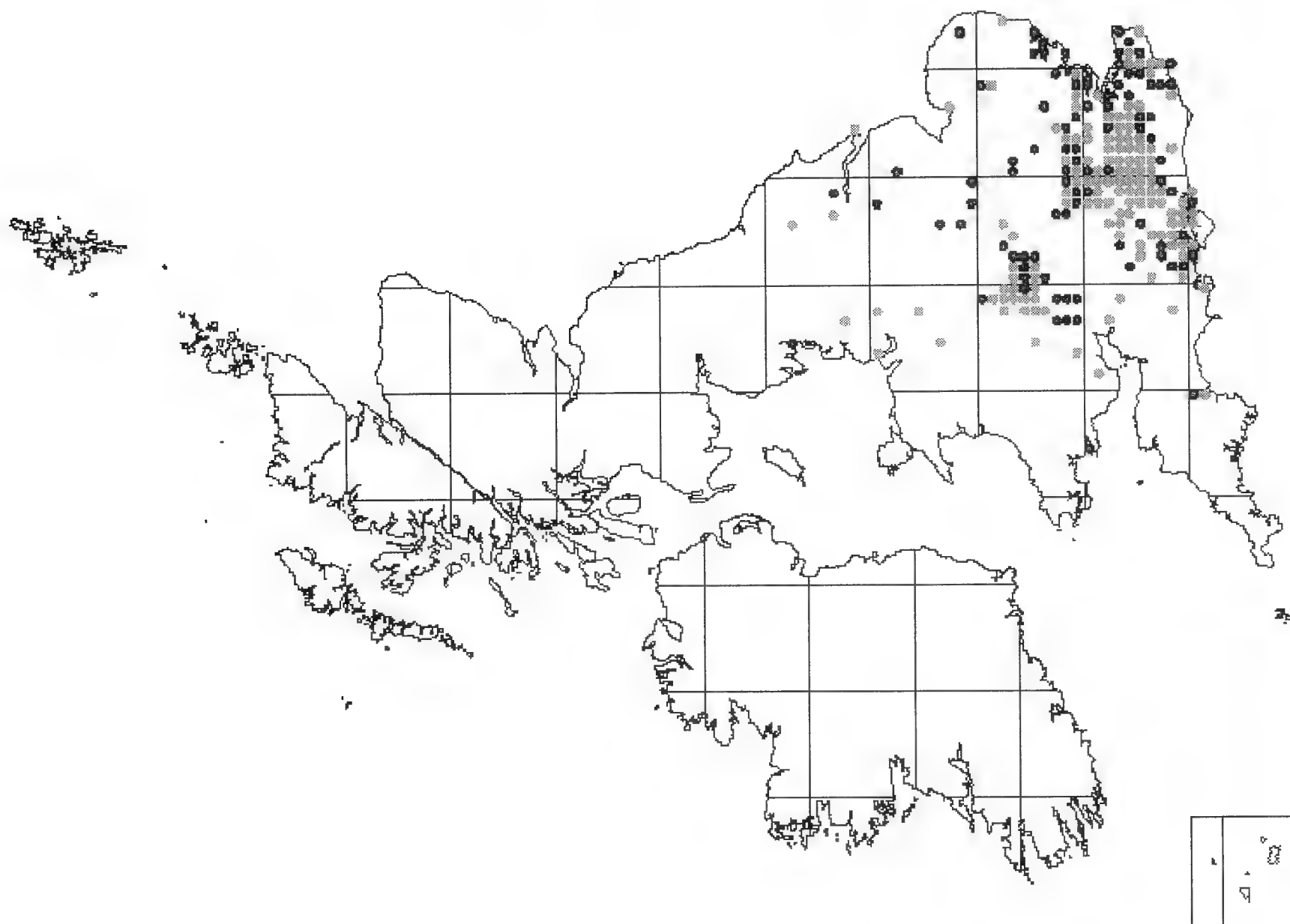


As the NMRS is still in its early stages there are gaps in recording coverage. These are either due to under-recording or because data are yet to be submitted. There are 7.4 million records from 2000 onwards in the NMRS database compared to 4.98 million pre-2000 (historical) records. We are keen to increase the number of historical records within the database over the coming months to enable accurate comparisons of species range changes over time. In addition, despite the huge efforts undertaken by County Moth Recorders, there are also apparent errors in the data. It is for these reasons that the atlas is *provisional*. The publication of the atlas has enabled the identification of potential errors and makes it possible for recorders to target 'white holes' in recording coverage. The next step is to generate trends and revise the threat statuses for moth species, Butterfly Conservation and its collaborative partners are working on these analyses as a matter of urgency.

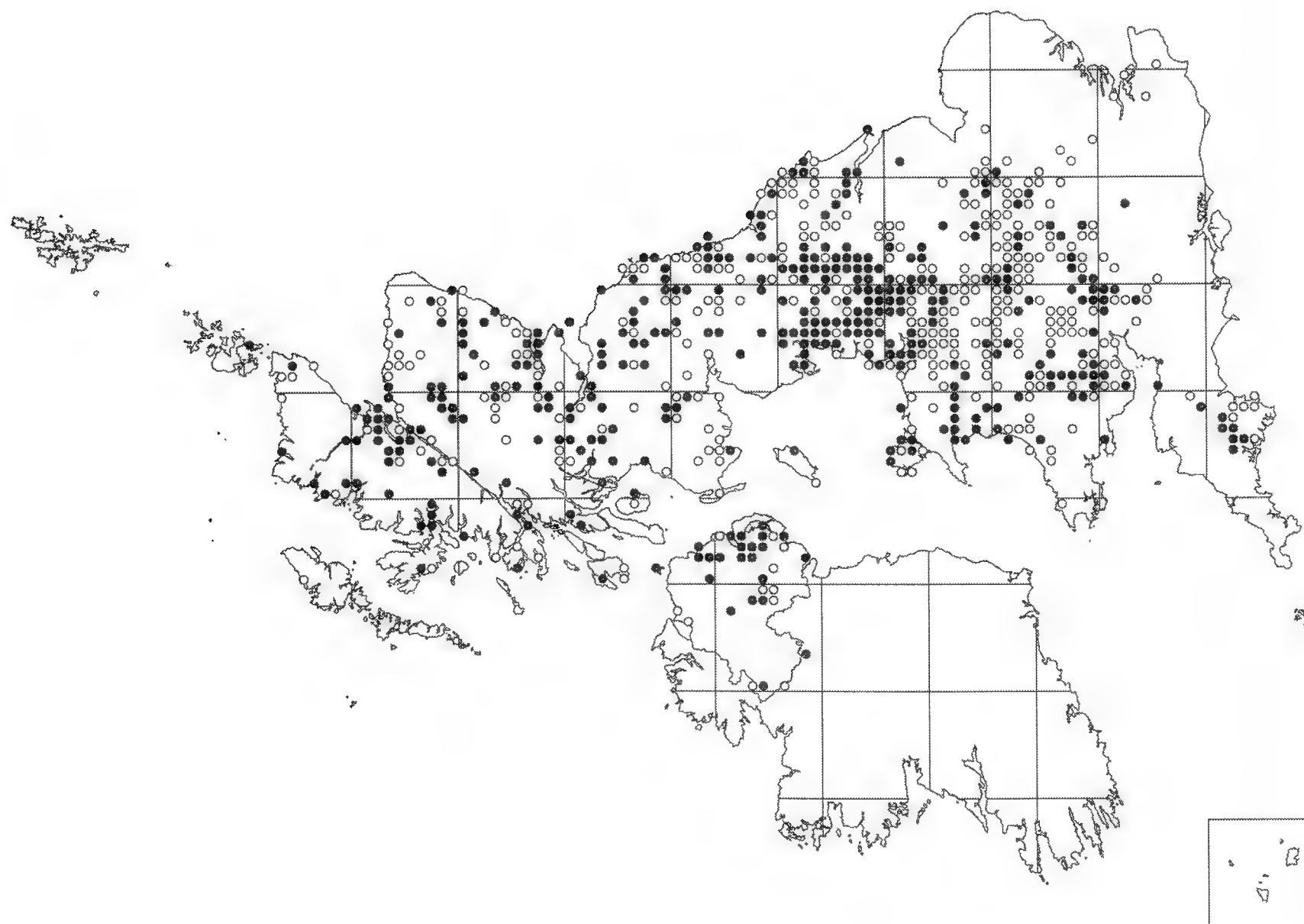
Since the production of the provisional atlas a further 1.1 million records from 54 vice-counties have been submitted to the NMRS, taking the total up to 12.4 million moth records. The database continues to grow both temporally and spatially. In July this year the NMRS dataset was refreshed on the National Biodiversity Network (NBN) Gateway. Distribution maps for the UK's macro-moths can be viewed online on the Moths Count website ([www.mothscount.org](http://www.mothscount.org)), the NBN Gateway, UK Moths website and even on iPhones and iPads using the BirdGuides British Moths 'app'.

The NMRS database will be used to improve our knowledge of moth ecology and distribution. It will also be used to inform land-use planning and management decisions that impact on biodiversity. Government agencies such as Natural England and Countryside Council for Wales already have access to the NMRS database for use in their conservation work. Scottish Natural Heritage will also start to utilise the database in the near future. We are also hoping to collaborate with the National Biodiversity Data Centre and the Moths Ireland recording scheme in the Republic of Ireland to produce moth distribution maps of the whole of Britain and Ireland in the future.

The NMRS maps can be used to look at species range changes. An example of a species that appears to be declining at the southern edge of its range is the Grey Chi *Antitype chi* (Fig. 1). This moth is well distributed in the Midlands, Wales and Northern England (Waring and Townsend, 2009). However, the map of this species in the *Provisional Atlas* suggested that all is not well and subsequent communication with County Moth Recorders in the Midlands has confirmed that the moth's distribution in these areas has declined in recent years. In Northamptonshire, John Ward has only seen four individuals in four years since 1987. Prior to the 1940s the moth was annually recorded from many different localities. Only four records have been received since 2000 and the moth was last recorded in the vice-county in 2008 (J. Ward, pers. comm.). A similar decline has been experienced in Warwickshire where the moth has only been recorded twice since 1992 (D. Brown, pers. comm.). The Grey Chi is also rare and declining in Hereford and Worcestershire, where it was once common during the 1960s and 1980s (Harper and Simpson, 2002). Even in Yorkshire where the moth was once



**Figure 2.** NMRS provisional distribution map showing the distribution of the Waved Black *P. fuliginaria* at 10km resolution. Grey circles represent all pre-2000 data, black circles show new records from 2000 onwards.



**Figure 1.** NMRS provisional distribution map showing the distribution of the Grey Chi *A. chi* at 10km resolution. Open circles represent pre-2000 data, solid circles data from 2000 onwards.

abundant and frequently recorded, the species is declining particularly on lower ground in the south and east of VC63 South-west Yorkshire (C. Fletcher, pers. comm.). Conversely, this species is increasing in abundance in Northumberland. This could be due to increased recording effort or perhaps in response to climate change. Anecdotal evidence suggests that the moth is moving to higher ground and shifting its range northwards.

The NMRS database can also be used to examine species that are increasing their range (Fox *et al.*, 2011). One such species is the Waved Black *Parascotia fuliginaria* (Fig. 2). The first British record was from London in 1809 (Plant, 1993) and during the 19th century there were 13 records of the moth. Only two records were made (one each in 1901 and 1906) in the 20<sup>th</sup> century up until 1953. However, from 1965 onwards numerous moths were recorded from many new locations. It is thought that the moth is associated with human activities. The larvae feed on fungus found on damp decaying wood and timber (Plant, 2008). During the war years it is likely that timber and dead wood would have been valuable fire wood, thereby reducing the moths' resources (C. W. Plant, pers. comm.). In rural areas, reduced woodland management in recent decades, as well as growing awareness of the importance of leaving deadwood for rare saproxylic invertebrates, is likely to benefit this species.

The moth is expanding its former range in most counties. By 1983 the Waved Black's stronghold was on the Surrey-Hampshire borders (Heath and Emmet, 1983), with scattered records elsewhere. The moth is now well distributed throughout Surrey and Hampshire, and has spread in Kent (I. Ferguson, pers. comm.) and Essex (P. Harvey, pers. comm.). In Hertfordshire, 25 records were received up to 2000, but 87 have been submitted since (C. W. Plant, pers. comm.). In addition, the Waved Black has colonised new counties. The first record in Warwickshire was in 1984 (Brown, 2006) and since then the moth has slowly expanded eastwards across the county (D. Brown, pers. comm.). The first Herefordshire record was from Ledbury in 1990 and there have been several records to the north-east and north-west of Ledbury more recently (P. King, pers. comm.). It was first recorded in Bedfordshire in 2000 ([www.vc30moths.org.uk](http://www.vc30moths.org.uk)) and since then a further three have been recorded. A scattering of records have also been recorded outside of the moths main range in central and southern England, which might herald further range expansion or result from immigration.

### **Supporting the moth recording community**

During the planning phase of the Moths Count project, a need for training workshops to enhance the existing skills of the moth recording community was identified. Over the course of the project 125 free training workshops were run. These included beginners' 'introduction to moths' workshops, caterpillar identification training, using biological recording software, identification of moths by genitalia and various UK Biodiversity Action Plan Priority species survey training workshops. In total over 1,700 people attended these events and the feedback was extremely positive.

*British and Irish moths: an illustrated guide to selected difficult species* was published late in 2010 (Townsend *et al.*, 2010). Again, this resource was requested by the moth recording community as a project output during the planning phase of the Moths Count project. It focuses mainly, but not exclusively, on genitalia characteristics and is ideal for those who wish to make definitive identifications of 72 difficult macro-moth species such as ear moths, copper underwings, the November moth group and the dark and grey daggers. A myriad of people, from County Moth Recorders, researchers and beginners to moth recording, attended the 12 'national' moth recorders' meetings that were held organised through the Moths Count project. The talks were excellent, feedback was positive and moth recorders enjoyed the networking opportunities these events provided. In January 2011 the first UK-wide moth recorders' meeting was held with speakers from the UK, Ireland and the Netherlands.

### Public Engagement and media interest

Engagement of the public was an essential part of the Moths Count project; moths are sadly overlooked and disliked by many. They have had a bad public image in the past as grey, boring, jumper-munching pests. To challenge these misconceptions a programme of public moth events was devised. These were hugely successful and over 2,000 people attended the 95 events. Almost a third of attendees were women and a quarter were children. Within the moth recording community these two groups are generally under-represented. These public events have educated people about moths the importance and beauty of moths as well as helping to enthuse and recruit the next generation of moth recorders.

A series of leaflets, *Introduction to moths*, *All about moths*, *Garden moths*, *Day-flying moths* and *Caterpillars* were produced to circulate at public moth events, shows and exhibitions. Over 100,000 were disseminated to organisations and individuals over the course of the project. These bright and informative leaflets were well received.

Additionally a simple on-line citizen science survey *Garden Moths Count* was run from 2007 to 2009. People were encouraged to use simple methods, such as wine-roping, sugaring and leaving a porch light on, to look for 20 target species in their gardens. From 2008 onwards a more focussed online survey for the Humming-bird Hawk-moth, *Magroglossum stellatarum* and Painted Lady, *Vanessa cardui* butterfly was run, sightings can be logged at [www.butterfly-conservation.org/migrantwatch](http://www.butterfly-conservation.org/migrantwatch).

The media's interest in positive moth stories, rather than the pest species, has grown substantially in recent years. Since the launch of Moths Count, the project team has generated at least 80 articles in national and regional newspapers, 49 national TV and radio features and over 100 magazine articles.

### Future plans

Despite the end of the project's Heritage Lottery funding in 2010, Moths Count and the NMRS are continuing. As long as moth recorders continue to record



moths, the NMRS will continue to grow. Ongoing support and funding has been received from The Redwing Trust, Countryside Council for Wales, Natural England, Northern Ireland Environment Agency, Royal Entomological Society, Scottish Natural Heritage and many other individuals and partners. Business partners include Anglian Lepidopterist Supplies, Apollo Books, British Wildlife Publishing, MapMate, Nectar Creative and Watkins & Doncaster.

An online recording system is still in development. We hope that an extensive testing period will commence in due course enabling us to announce a 'going live' date for next year's recording season.

We will continue to feedback to the moth recording community via E-moth (the project's regular electronic newsletter), the hard-copy annual newsletter and in various entomological journals.

### Acknowledgements

We wish to thank the County Moth Recorders who provided information and data on the status of the Grey Chi *A. chi* and Waved Black *P. fuliginaria* in their vice-counties.

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### EDITORIAL COMMENT

Butterfly Conservation are organising a second UK Moth Recorders' Meeting for 28 January 2012 at the Birmingham and Midland Institute; readers are welcome to attend. Further details are available on the Moths Count website ([www.mothscount.org](http://www.mothscount.org)). To be kept up to date with project news, please sign up to the mailing list by contacting [info@butterfly-conservation.org](mailto:info@butterfly-conservation.org) or telephone 01929 400209 if you do not have Internet access. A limited number of copies of *Provisional atlas of the UK's larger moths* are still available from the same source.

**Small *Ranunculus Hecatera dysodea* (D. & S.) (Lep.: Noctuidae) larvae found in south-east Suffolk (VC 25)**

The first record of recent times for this species in Suffolk was at the coastal town of Felixstowe in 1999, when it was recorded at the light traps operated at Landguard. In the following years, the moth has been regularly recorded at light at several sites in Suffolk, with the majority of records occurring in the south-east area of the county at Felixstowe, Bawdsey, Trimley St Martin and Ipswich.



**Plate 26.** Final instar larva of Small *Ranunculus Hecatera dysodea* feeding on seed head of Prickly Lettuce *Lactuca serriola*, Trimley St Martin, Suffolk, 13 August 2011. © Tony Prichard

Several members of the Suffolk moth group (Neil Sherman, Matthew Deans, Paul Bryant and myself) were having a general search for larvae at Landguard Common on 12 August 2011 when Neil Sherman noticed several larvae on some rather diminutive Prickly Lettuce *Lactuca serriola* seed-heads. These were quickly identified as Small *Ranunculus* larvae and is the first record of larvae being found in the county for over a century. Further searching produced a total of eleven larvae.

There is plenty of the foodplant growing along the sides of the dual carriageways of the A14 and A12 roads and with the A14 passing through Felixstowe, Trimley St Martin and Ipswich this would appear an obvious corridor for the species to

have spread along. On the afternoon of the following day (13 August) I had a search of an area adjacent to the A14 near to Trimley St Martin and found eleven larvae within a half an hour. A little later and further inland at Orwell Country Park on the south-east outskirts of Ipswich I found a further eight larvae in around fifteen minutes. Most of the larvae found were final instar, with just the odd one being a bit smaller suggesting that we may have missed the period of peak numbers.— TONY PRICHARD, 3 Powling Road, Ipswich IP3 9JR (e-mail: tony.prichard@btinternet.com).

## INSECT HYBRIDS

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### Abstract

Information from three butterfly species is examined and shown to indicate the presence of hybrids. The flight periods of broods in all three cases exceed eight weeks. Two of the three are sedentary insects while the third has regular immigrations from Europe. Present Brown Argus *Aricia agestis* (D.& S.) migration facts are noted. It is proposed that, since all insects and other wildlife are equally affected by ice-ages and global warming, many will also have hybrids provided their distribution covers the whole of mainland Britain and their flight periods are 8 weeks or more. As a start twelve species from three Orders are listed. These conform to the stated requirements.

**Keywords** Butterflies, moths, hoverflies, hybrids, migration, flight periods, phenograms, group.

### Introduction

After many years of conflicting opinions, the present consensus on the status of the genus *Aricia* (Lep: Lycaenidae) in mainland Britain is that the Brown Argus *Aricia agestis* (D.& S.) occurs in south and central England, the Northern Brown Argus *Aricia artaxerxes* (Fabr.) in north England/Scotland, and a range of hybrids feature in an intermediate zone. For the purposes of this paper, the most important point is the presence of a range of hybrids rather than the precise composition or location of any examples. The formation of hybrids occurs when overlaps occur between any two of the above three taxa. This is a random event and the eventual change in any colony will depend on the alteration introduced by the breeding ratio of the stationary colony to the immigrants. The latter may arrive in more than one wave, and the new situation will take several years to settle down. The *Aricia* have had much more scrutiny than any other butterfly hybrids, but the Common Blue *Polyommatus icarus* Rott. and the Small White *Pieris rapae* L. also have hybrids. Phenograms (Asher *et al.*, 2001) for British butterflies show a general similarity with many exceeding the eight-week flight period and showing high number centres (see Common Blue section, below).

As a first step, examples of four butterflies, four moths and four hoverflies were selected where all had a wide north-south distribution plus an eight-week minimum flight period. These were chosen because of availability of suitable records, and the exercise proved relatively straightforward.

### Abbreviations

BA	Brown Argus <i>Aricia agestis</i>	mufl	male upper forewing lunulation
BC	Butterfly Conservation	NBA	Northern Brown Argus <i>Aricia artaxerxes</i>
BAH	BA hybrids	OS	Ordnance Survey
CB	Common Blue <i>Polyommatus icarus</i>	SW	Small White <i>Pieris rapae</i>

### Brown Argus

Two recent papers (Mallet *et al.*, 2011), (Smyllie, 2010) indicate considerable agreement in the national distribution of *Aricia* via the genetic map constructed by Ian Wynne in 2002 (see Mallet *et al.*, *op.cit.*) and by mufl. The recent migration northwards of BA has provided an opportunity of checking two out of three specific mufl findings, all of which are related to the potential migration path. Before going into details, it should be mentioned that a large mufl data bank (2,400) coupled with Butterfly Conservation's (BC) volunteer records for Lincolnshire, Yorkshire and Durham have between them presented a very unusual or possibly unique opportunity of comparing what happened during the last global warming with the present. It is considered simplest to give various localities a 10km OS grid square, because it will be accurate enough when backed by the occasional extra comment. The three references via lunulation are:

1. The south-east national extremity of NBA is at Bastow Wood, near Grassington, Yorkshire Dales, grid square SD 96 (there is a single record about 100m into SE 06)
  2. There are two BAH grid squares in Durham NZ 33 and NZ 34 (no recent records from NZ 34).
  3. The northernmost BAH grid square is on the south-east Scotland coast at Burnmouth, NT 96. Eyemouth, NBA, also in NT 96, is less than 1.5km north of Burnmouth.
- Around 15 butterflies are migrating north in this present global warming. Among them is BA which started from Norfolk in 1992. In 1995 it was reported from Gibraltar Point NNR, Lincolnshire and verified by a visit of BC Lincs. members that year. In 1997 it reached Spurn Point at the south-east extremity of Yorkshire. There was some expectation that migrants might impinge on the NBA colony at Bastow Wood, and at one time this looked a distinct possibility via records from SE 15 and SE 25. A record for SE 05 shown an unpublished map produced by Butterfly Conservation is not validated. However these records proved transitory and also unusual. The main migration thrust has been northwards, not west, and a check on site records between 2007 and 2010 shows that the nearest to Bastow Wood is at Farnham Gravel Pits, over 30km away. In the meantime the northward thrust has traversed 70km.

Information from the Peak District (Smyllie, 2008) showed that BA (Coombs Dale) and BAH (Longstone Edge) had retained their separate status since the last global warming despite being only 1km apart at their nearest points. The butterflies must therefore have been very sedentary during normal weather over the last 12,000 years.

The evidence via an NBA site at SD 96 is important because it indicates that it was not altered during the last global warming. This global warming route is quite directional, and so far there is no indication that its course is any different



from last time. At this point it should be mentioned that the Magnesian Limestone corridor through Yorkshire provides a low lying habitat rich in plant species which will appeal to insects like the Brown Argus. Yorkshire Wildlife Trust's treatment of this corridor as a landscape area to be made more wildlife friendly where possible should be applauded and supported.

- The northbound BA migrants reached Durham in 2006, having traversed Yorkshire. In 2007 they were recorded from Thrislington National Nature Reserve and Bishop Middleham Quarry, both BAH sites in NZ 33 according to mufl. In 2008, they were recorded in late September from Raisby Way, still in NZ 33 but further north than the above sites. So data above via mufl have been verified.
- Burnmouth is very near to Eyemouth, but it is better to concentrate on Eyemouth, because it is NBA and if the migrants were to reach Eyemouth they would have outstripped the last global warming surge which occurred without any greenhouse addition via man's activity. This is possibly a unique comparison and at least provides something positive compared with rhetoric and opinion. In the 16 years between 1992 and 2008 the migration has covered 220km as the crow flies at an average of  $220/16 = 13.75\text{km}$  per annum. It is a further 135km to Eyemouth, so at the same average it will take a further 10 years. Annual updates could be made. In 2009 and 10 the summers were indifferent and there was no further progress north. Here it should be mentioned that over the last 16 summers migration has varied considerably from very little up to 30km, depending on the weather. If this update went to 2010 the figures would become  $220/18 = 12.2\text{km}$  pa, so we are talking about 11 years.

It is worth noting that existing 1992 colonies in the Peak District, Yorkshire and Durham, whether BA, NBA or BAH, have not shown any tendency to migrate. There have been a few extra tetrads immediately adjacent to those noted before 1992. If these were indicative of migration rather than recording, there should have been further extensions during the 16 to 18 migration years, something which has not happened.

### Common Blue

There are similarities between the Common Blue and *Arícia*. It is a very sedentary butterfly, a variant race (blue females) on the island of Tean in the Scillies is only 300 yards from the normal race on St. Martin (Ford, 1945). Also the underwing ocelli are in very similar positions and care has to be taken in differentiating brown CB females from BA via their undersides.

Both butterflies are distributed all over Britain although the CB is much more common and widespread. In both species the black ocelli pupils vary in size when measured as a percentage of the overall diameter. The upper and lower limits are fairly constant in the CB. In Scottish BA specimens the pupils are either absent or very small. Much further south in the Isle of Wight the BA figures have become very similar to CB, and a histogram from 98 Yorkshire CB specimens shows a

typical sine wave curve with maximum numbers in the middle (Smyllie, 1997). Both species are univoltine in the north and bivoltine further south. The phenograms are generally similar although the greater number of CB records give a more positive colour differential. Here the important points are that the single and double brood periods are both 8 weeks or more, and the maximum numbers are in the centre of the brood periods, again giving a representation of a sine wave with no indication of more than one high number zone in any brood.

### **Small White**

The Small White is a frequent immigrant and so is exactly the opposite of a sedentary species. Normally it over-winters as a chrysalis, but occasionally caterpillars are found hibernating in cabbages. Genetic analysis on specimens from Cambridgeshire found that 5% had a slower rate of development with a confirmed genetic difference (Gardiner, pers. comm. 1997). Again its phenogram is generally similar to both BA and CB in the south where the second brood is numerically larger and has a more extended flight period. There is no change to one brood further north, although numbers are much less.

### **Discussion**

The average insect's life span is around three weeks or less, so when the flight period of any brood is 8 weeks minimum this indicates a more complex situation than normal. One possible mechanism is suggested by noting that variation between one and two broods per year can occur. All species have to be able to exist in their particular local environment and in practice this may result in either one or two broods in a year. Over tens or hundreds of thousands or even millions of years this different rhythm will gradually cause a drift towards different species. When ice-ages or global warmings cause overlaps the drift is checked by cross-breeding. Provided the frequency of ice-ages and global warmings is greater than the required amount of drift, the formation of new species will not occur. A diagram giving the relationship between temperature and time shows that in the last 500,000 years the temperature has been relatively low and that ice-ages/global warmings have increased (Lamb & Sington, 1998).

One aspect of the Brown Argus is worth mentioning as a relatively subtle indicator of the presence of hybrids. The Scottish 'whitespot' has white discal forewing spots consisting of around 200 scales. In the southern counties of England – south of the Thames and Severn – the occurrence of white discal scales was noted in museum specimens. Out of a total of 147 males, 103 had no discal scales and the remaining 44 varied between 1 and 32 with an average per each of the 147 males of roughly 2 scales (Smyllie, 1992). So, in spite of the butterfly being very sedentary there is evidence of Scottish NBA creeping through England to the extent of somewhere in the region of 1% in 13,000 years at the south coast. This creep did not get to the south coast before the Channel was formed because

there are no white scales in France. Since there is the variation noted between Scotland and the south coast, it follows that there must be differing ratios at points in between, which means that there must be a range of hybrids, even if some are at a very low percentage.

The difference in brood numbers and perhaps other possibilities will need further investigation. At a South Yorkshire Natural History Symposium in February 2011 the idea of an Insect Hybrid group was taken up and has been formed. Even if only 5% of our insects are involved this will mean  $20,000/20 = 1,000$  different species in Britain. The idea of a group approach is to identify possible species which meet the distribution and flight period criteria, then to investigate possible differences by examining museum or private collection specimens. Aspects of life cycle variation via field observation may also be important. General information and problems can be shared. The knowledge to be gained may illustrate the complexity of some of our insects, something which will stand them in good stead during the present global warming. The following species have the required distribution/flight periods:

<b>Butterflies</b>	<b>Moths</b>	<b>Hoverflies</b>
Common Blue	Hebrew Character	<i>E grossulariae</i>
Speckled Wood	Clouded Drab	<i>E balteatus</i>
Gatekeeper	Poplar Hawk	<i>Myathropa florea</i>
Meadow Brown	Heart & Dart	<i>Eristalis tenax</i>

### Acknowledgements

I am indebted to the many BC members who have taken part in the process of recording and manipulating individual records, particularly in Lincolnshire, Derbyshire, Yorkshire and Durham, to the point where information re how migration is proceeding has become available.

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### Interesting and notable moth records for East Gloucestershire (VC 33) from Coln Park, 2008 to 2011

Coln Park, a 650 acre (approx. 260 Ha) estate near Lechlade in East Gloucestershire (VC 33, O. S. grid reference SU 19), has a variety of wetland habitats situated around six lakes. Moth identification and recording commenced in 2008 with entries databased using Mapmate software. The most significant record to date was the first VC 33 record of *Stathmopoda pedella* (L.) (Oecophoridae), which was reported in detail by Pollard (2011. *Ent. Rec.* 123: 81-83). Cream-spot Tiger is also a first VC 33 record and four other typical wetland species have been recorded apparently for only the second time in VC 33 and are deemed worthy of mention here. It remains to be seen whether these records represent the possible under-recording of moths in VC 33 in wetland habitats. They may, perhaps, result from the establishment of new colonies of these species in extensive new wetland habitats created after quarrying for sand and gravel extraction over the last 20 to 30 years. Ongoing recording will allow us to build up a picture of these species' distribution patterns locally and regionally, and surveys and trapping at other locations in VC 33 are to be encouraged.

Cream-spot Tiger *Arctia villica* (Oberthur) (Arctiidae) is recorded as a single example seen by BJP resting in sunshine on a hazel *Corylus avellana* leaf in the early afternoon of 23 June 2010. Waring & Townsend (2006) report the typical habitats for this species as being coastal or heathland, but there are ten previous records of the Cream-spot Tiger in VC 34 to the west which may suggest it is gradually shifting eastwards. The burying beetle *Necrodes littoralis* (L.) (Coleoptera: Silphidae), was also found at Coln Park in 2010; this is also reported in some texts as being coastal, but it is apparently common at many inland light traps in Hertfordshire (VC 20) in the south-east (Colin Plant, personal communication).

*Phalonidia manniana* (F.v. R.) (Tortricidae). On 7 May 2011 two individuals of this Nationally Scarce micromoth were recorded. This represents only the fourth known location for Gloucestershire. A photograph of this specimen can be viewed, at August 2011, at [www.ukmoths.org.uk/show.php?id=6133](http://www.ukmoths.org.uk/show.php?id=6133). The larvae feed on Water Mint *Mentha aquatica*, a common marginal plant at Coln Park.

Small Seraphim *Pterapherapteryx sexalata* (Retzius) (Geometridae). Records were made on four different occasions in 2010: 12 June [2 individuals], 18 [1], 22 [1], 23 [1]. The apparent spread of this species into Gloucestershire from its reported distribution of southern England, East Anglia and Wales is also of note and just ten years ago there were no records for VC 33 and only two for VC 34. Coln Park contains abundant willow *Salix* spp. in marshy areas, its reported foodplant in its preferred habitat.

Obscure Wainscot *Mythimna obsoleta* (Hb.) (Noctuidae), was recorded in 2010 on 18 June and 10 July. It is most commonly found in the UK along the southern and eastern coasts from Dorset to Yorkshire, with small inland populations northwards towards Oxfordshire (VC 23), which is to the immediate east of VC 33. This species' foodplant is predominantly Reed *Phragmites australis*, an emergent species commonly found around the lake edges at Coln Park.



			<b>Decline</b>
<b>Hepialidae</b>			
Ghost Moth	V	<i>Hepialus humuli</i> (L.)	73%
<b>Thyatiridae</b>			
Buff Arches	V	<i>Habrosyne pyritoides</i> (Hufn.)	71%
<b>Geometridae</b>			
Blood-vein	V	<i>Timandra comae</i> (Schmidt)	79%
Small Phoenix	V	<i>Ecliptopera silaceata</i> (D.& S.)	77%
Dusky thorn	E	<i>Ennomos fuscantaria</i> (Haw.)	98%
Brindled Beauty	V	<i>Lycia hirtaria</i> (Cl.)	81%
<b>Arctiidae</b>			
White Ermine	V	<i>Spilosoma lubricipeda</i> (L.)	77%
Buff Ermine	V	<i>Spilosoma luteum</i> (Hufn.)	73%
The Cinnabar	V	<i>Tyria jacobaeae</i> (L.)	83%
<b>Noctuidae</b>			
Dot Moth	V	<i>Melanchra persicariae</i> (L.)	88%
Sprawler	V	<i>Asteroscopus sphinx</i> (Hufn.)	83%
Brown-spot Pinion	V	<i>Agrochola litura</i> (L.)	76%
Beaded Chestnut	V	<i>Agrochola lychnidis</i> (D.& S.)	90%
Centre-barred Sallow	V	<i>Atethmia centrago</i> (Haw.)	74%
Grey Dagger	V	<i>Acronicta psi</i> (L.)	77%
Knot Grass	V	<i>Acronicta rumicis</i> (L.)	80%
Light Arches	V	<i>Apamea lithoxylaea</i> (D.& S.)	71%
Large Nutmeg	V	<i>Apamea anceps</i> (D.& S.)	88%
Large Wainscot	V	<i>Rhizedra lutosa</i> (Hb.)	86%
The Rustic	V	<i>Hoplodrina blanda</i> (D.& S.)	75%

Table 1. Species recorded at Coln Park which are listed as 'Threatened' in Fox (*et al.* 2006). The percentage population decline given by these authors is also indicated.

Silky Wainscot *Chilodes maritimus* (Tauscher) (Noctuidae), was first recorded on 12 July 2010. There were only five previous records from Gloucestershire as a whole. It is a local species usually found in the UK in the south and south-east of England with scattered populations elsewhere, such as in East Anglia (VC 25 to VC 28) and Yorkshire (VC 61 to VC 65). This is also a reed-feeding species.

In addition, 20 more common species that have recently been assessed as 'Threatened' on account of apparent severe declines in population levels in the

UK over the last 35 years (Fox, R., Conrad, K.F., Parsons, M.S., Warren, M.S. & Wolwood, I.P. 2006. *The State of Britain's Larger Moths*. Butterfly Conservation and Rothamstead Research) have been recorded at Coln Park. These have been classified as either Endangered (E) or Vulnerable (V) according to IUCN (2001. *IUCN Red List Categories: Version 3.1*) These are listed in Table 1, together with the percentage decline in population over the period 1968–2002 reported by Fox *et al.* (*op. cit.*).

Most of these species have been recorded at Coln Park using a 125Watt MV light trap of the Robinson pattern. Moth trapping and recording will continue at Coln Park and be used to identify habitats and plant species of greatest importance for moth conservation. — BENEDICT JOHN POLLARD, Landscape and Ecology Manager, Coln Park, Lechlade, Gloucestershire GL7 3DT (E-mail: benedict.pollard@gmail.com) & JOSHUA PETER TWINING, Undergraduate Zoologist, University of Birmingham, Birmingham B15 3SX (E-mail: JPT074@bham.ac.uk).

### **The Buff Footman *Eilema depressa* (Esper) (Lep.: Arctiidae) is the latest species to move into central Scotland**

Perhaps the moth find of 2011 for Stirlingshire and West Perthshire is the Buff Footman. I was lucky enough to find the first in Lennoxton, on 11 July, another was caught by David Bryant at Bridge of Allan on 11 August and I identified a third in the catch for 2 August of the Rothamsted trap at Rowardennan on Loch Lomondside. Thus, the species is now recorded in Vice-county 86 and VC 87. Central Scotland is accumulating an impressive list of species that have moved into the region in the 22<sup>nd</sup> century. They include, in rough order of appearance, Pale Prominent *Pterostoma palpina* (Cl.), actually first recorded in 1995, Red-necked Footman *Atolmis rubricollis* (L.), Slender Brindle *Apamea scolopacina* (Esp.), *Ypsolopha sequella* (L.), Alder Moth *Acronicta alni* (L.), Copper Underwing *Amphipyra pyramidea* (L.), Oak-tree Pug *Eupithecia dodoneata* Guen., Pale Pinion *Lithophane hepatica* (Cl.) and now Buff Footman. The spread of Red-necked Footman, Slender Brindle and the Pale Pinion has been dramatic and has been documented (Knowler, J.T. and Mitchell, J., 2004. *The Glasgow Naturalist*, 24(2): 142-143; Knowler, J. T. (2005). *The Glasgow Naturalist*, 24(3): 64; Leverton, R. and Palmer, S. (2009). *Entomologists Rec. J. Var*, 121: 129-133). However, the range increase of the Buff Footman may prove to be even more impressive. The map for the species in *The Moths and Butterflies of Great Britain and Ireland*, volume 9 (Harley Books) shows that in 1978 the species had a patchy distribution mainly south of a line from the Severn to the Wash. However, Butterfly Conservation's *The Provisional Atlas of the UK's Larger Moths* (Hill *et al.*, 2010), shows considerable northward expansion. Steve Palmer (pers. comm.) informs me that the first authenticated record in Lancashire came in 2000 and that it is now recorded in good numbers throughout the county particularly in the north. At present there are relatively few records from Cumbria and southern

Scotland. There have been annual records from near Kelso in the Scottish borders since 2009 and a single 2009 record from Ayrshire. Thus, it appears that the species has arrived in central Scotland without establishing itself in much of southern Scotland.

With all of the species moving north, it is tempting to see their range expansion as a response to climate warming or, in the case of Red-necked and Buff Footman, to the cleaner air that supports lichen growth. However, Roy Leverton (pers. comm.) has pointed out that the factors supporting northward range extension must be more complicated because, both Dingy and Scarce Footman both occurred further north than Buff Footman in 1978, but they have not spread to central Scotland.—  
JOHN T. KNOWLER, 3 Balfleurs Street, Milngavie, Glasgow G62 8HW, Scotland.

### Recent moths new to the Isle of Wight

I recorded an example of *Ancylis unguicella* (L.) at Totland on 22 June 2007; this was identified by Brian Elliot. James Halsey discovered a possible colony of *Scleroconus acutellus* (Eversmann) in Freshwater Marsh. Examples were taken on 21 June 2010 and a further six on 19 July 2010 – an exceptional number; it is intended to visit the site again in 2011 and 2012 to determine if it has become established or if it is a temporary residency only.

Over at Osborn, on 12 October 2008, David Biggs found tenanted mines of *Phyllonorycter hostis* Triberti, the identification being confirmed by Brian Elliot and John Langmaid. David also found a mine of *P. tenerella* (de Joannis) on a Hornbeam (*Carpinus betula*) leaf at Osborne on 17 August 2010.

David Cook found an adult *Acompsia cinerella* (Cl.) on 15 August 2010 on Brook Down and *Blastodacna atra* (Haw.) came to his light at Freshwater on 15 August 2010. The same light attracted *Bucculatrix nigricomella* (Zell.) on 24 July 2010. Mike Wall was responsible for naming all of Dave Cook's specimens. —  
SAM KNILL-JONES, 1 Moorside, Moons Hill, Totland, Isle of Wight PO39 0HU.

### Unusual refreshment for an Old Lady? Old Lady *Mormo maura* (L) (Lep.: Noctuidae) drinking water

Before retiring for the night, I usually take a torch out to check on moths sat around the MV trap. On 26 July, as I passed our small garden pond at about 23.30, I made my usual search to see which of our resident frogs and toads was visible. The torch also revealed an Old Lady moth sat head down on the plastic lining, and drinking pond water. I do not know whether such behaviour is unusual, but I have not previously noted it. — ROGER HAYWARD, The Corner House, Nine Mile Ride, Wokingham, Berkshire RG40 3DY.

## REINSTATEMENT OF COPPICING IN NEGLECTED ANCIENT WOODLANDS BENEFITS BUMBLEBEES, BUTTERFLIES AND GRASSHOPPERS IN ESSEX

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### Abstract

Cessation of coppicing led to low species richness of thermophilous (warmth loving) insects in four ancient woodlands in south-east England. Insect species richness increased in copparded and coppiced woodlands after cutting, with White-letter Hairstreak *Satyrrium w-album* and Small Copper *Lycaena phlaeas* being recorded for the first time. Bumblebees and grasshoppers also colonised coppiced coupes, Roesel's bush-cricket *Metrioptera roeselii* was found in both copparded and coppiced coupes. Insect species richness also increased in the control wood, with butterflies and bumblebees being recorded in small areas with an open canopy, but none of the more localised butterflies recorded in the managed woodlands were observed.

**Keywords:** Coppicing, woodland management.

### Introduction

In the UK, the widespread cessation of traditional coppicing and pollarding in ancient woodlands in the 20th century has had a detrimental impact on the thermophilous (warmth loving) insect fauna associated with open woods (Asher *et al.* 2001). The decline of active woodland management is considered to have led to the extinction of many of the rarer butterflies associated with coppicing, such as silver-washed fritillary *Argynnis paphia*, a species dependent on the maintenance of woodland rides and glades where its larval foodplant, common dog-violet *Viola riviniana*, grows (Corke, 1997). Many of the fritillary butterfly species in the county of Essex (southeast England) became extinct in the 1940s and 1950s when the effects of the cessation of coppicing became apparent. Dark, shady woodlands developed throughout Essex, only suitable for butterflies of mature woodland, such as speckled wood *Pararge aegeria* (Corke, 1997). Other thermophilous insect orders, such as Orthoptera (grasshoppers and crickets), have also been noted to be in abundance in coppice woodland (Rackham, 1986), although data on the species present in recently cut areas is lacking. Bumblebees (Hymenoptera; *Bombus* spp.) are not believed to be abundant in mature woodland with a closed canopy, conditions established in the absence of coppicing (Williams 1988).

Four mature ancient woodlands are found on organic farmland near Norwood End in Fyfield (Essex). Recent insect surveys revealed that for several of the woodlands the species richness of butterflies was higher around the boundaries than in the interior (*Insects of Ashlyns Organic Farm*. Unpublished report at [www.ashlyns.co.uk/document/pdf/InsectsofAshlynsOrganicFarm.pdf](http://www.ashlyns.co.uk/document/pdf/InsectsofAshlynsOrganicFarm.pdf)). For example, in Little Wood, 10 butterfly species were observed around the boundary,



compared to only four species in the shady interior. This difference in species richness is attributed to the dense canopy cover of the woodland due to lack of coppice management leading to low light levels in the interior. There are a few small glades and these could benefit from opening up to increase light levels for basking insects. Resuming coppicing in Little Wood would be highly beneficial to plants and insects (Gardiner, 2008).

This paper documents the initial response of thermophilous insects in three orders, bumblebees (Hymenoptera, *Bombus* spp.), butterflies (Lepidoptera) and grasshoppers (Orthoptera), to the reinstatement of coppicing to the ancient woodlands at Norwood End in Fyfield.

### Site descriptions

The four ancient woodland study sites (Enville Wood, Little Wood, Nor Wood and White's Wood) are situated within an organically farmed landscape (Newhouse Farm, c. five years since conversion) near Norwood End in Fyfield. The woodlands are situated on boulder clay, at between 75-85 m a.s.l. The woods are surrounded by mixed land use including clover *Trifolium* fields (ley crops), grazing pastures and arable fields. All four woodlands are bordered on at least one boundary edge by wide, flower-rich grass margins. All woodlands have evidence of historic coppicing and pollarding, but records suggest that it is probable that they have not been actively managed since the early 1900s. The woods are designated as Local Wildlife Sites (LoWS) in recognition of their ancient woodland status.

#### Enville Wood (area 3.3 ha)

The woodland has a low diversity of habitats, mainly comprising neglected coppice. The tall unmanaged ash *Fraxinus excelsior*, field maple *Acer campestre* and hornbeam *Carpinus betulus* trees that predominate over much of the wood produce high forest conditions with a closed canopy. Consequently the woodland floor receives very little light. Hedgerow planting along the western edge in 2008 will hopefully provide a new green lane corridor to allow wildlife to disperse from the wood to the surrounding ancient woodlands (Little Wood, Nor Wood and White's Wood), which form a mosaic of LoWS. Shrubs present in the deep shade of the heart of the woodland include blackthorn *Prunus spinosa*, dogwood *Cornus sanguinea*, elder *Sambucus nigra*, hawthorn *Crataegus monogyna*, hazel *Corylus avellana*, and spindle *Euonymus europaeus*.

The ground flora is extremely species poor due to the heavy shade caused by the unmanaged canopy, the absence of regular coppicing leading to a lack of light reaching the woodland floor. Vascular plants persisting in the dense shade include dog's mercury *Mecurialis perennis* and bluebell *Hyacinthoides non-scripta*. Hedge woundwort *Stachys sylvatica* and pignut *Conopodium majus* are also found in low abundance, the latter species is an ancient woodland indicator. However,

the neglected nature of the woodland has benefits for the conservation of dead wood fungi and saproxylic invertebrates. There is an almost complete absence of areas open to sunlight in the woodland due to coppicing abandonment, and the lack of a ride system.

### Little Wood (2.3 ha)

This small woodland has a surprising diversity of habitats, ranging from neglected *C. betulus* coppice, an overgrown pond in the south-east corner, and an open area replanted with *F. excelsior*. The woodland is fenced in its entirety to exclude deer browsing of recently planted ash trees. Little Wood is notable for the presence of wild service trees *Sorbus torminalis* (an ancient woodland indicator) on its western boundary. Hedgerow planting along the western edge in 2008 will hopefully provide a new green lane corridor to allow wildlife to disperse from the wood to the surrounding ancient woodlands. Shrubs are plentiful in the woodland and include *P. spinosa*, crab apple *Malus sylvestris*, dogwood *Cornus sanguinea*, *S. nigra*, and hazel *Corylus avellana*.

The ground flora is relatively species poor due to the heavy shade of the dense hornbeam canopy in places, the absence of regular coppicing in the 20th century leading to a lack of light reaching the woodland floor. Plants persisting in the dense shade include *M. perennis* and *H. non-scripta*. Primrose *Primula vulgaris* and *C. majus* are also found in low abundance, the latter species is a good indicator of ancient woodland.

### Nor Wood (8.9 ha)

Nor Wood is the largest of the ancient woodlands in the area. The wood has an irregular shape leading to a long length of woodland edge habitat. The comparatively large size of the woodland leads to a greater diversity of habitats than are present in the other ancient woods (e.g. White's Wood). There is a wide ride (c. 20-30 m width) which runs through the woodland and serves as a valuable area for plants and thermophilous insects in the otherwise shady woodland interior. There is evidence of historic woodland management, with many large *C. betulus* coppice stools and old pollards along the boundary. Similar to Little Wood, Nor Wood is notable for the presence of several *S. torminalis* (on the northern boundary where it borders a public footpath). Shrubs are plentiful in the woodland and include *P. spinosa*, *S. nigra* and *C. monogyna*.

The ground flora is relatively species poor in places due to the heavy shade of the dense canopy, the absence of regular coppicing in the 20th century leading to a lack of light reaching the woodland floor. Plants persisting in the dense shade include *M. perennis* and *H. non-scripta*. In Nor Wood there are several plants that are not recorded in the other ancient woodlands; these include early purple-orchid *Orchis mascula* (one flowering spike in spring 2010), goldilocks buttercup *Ranunculus auricomus* and moschatel *Adoxa moschatellina*.

### **White's Wood (1.8 ha)**

White's Wood is the smallest of the four ancient woodlands. It is bordered on its southern and western edges by organic arable land and wide flower-rich field margins leading to high quality woodland edge habitat. A public byway (access for cyclists, horse riders, horse drawn carriages, motorised vehicles and walkers) runs along the eastern edge of the wood. The byway, Blackcat Lane, is also a LoWS.

In White's Wood there is evidence of historic woodland management practices with *C. betulus* coppice stools and old pollards along the boundary. *Acer campestre* and *F. excelsior* are also present and form the woodland canopy with *C. betulus*. The ground flora is relatively species poor in places due to the heavy shade caused by the dense canopy, the absence of regular coppicing leading to a lack of light reaching the woodland floor. Plants persisting in the dense shade include *M. perennis* and *H. non-scripta*. In White's Wood there are several plants that are not found in the other three ancient woodlands, including bugle *Ajuga reptans* and wild strawberry *Fragaria vesca*.

### **Woodland management in winter 2009/10**

#### **Enville Wood (control, not coppiced)**

Due to the absence of coppicing in the wood for several decades, the ground flora and insect assemblages reliant on open woodland conditions are species poor. The absence of scrub control has also led to a loss of diversity in the ground flora. However, a non-intervention policy should lead to the creation of a valuable dead wood resource for fungi and saproxylic invertebrates and establish high forest conditions (closed canopy). The non-intervention policy for Enville Wood provides a contrast to the other three ancient woodlands in this study, which are all to receive some form of coppicing, and as a consequence will have less dead wood (standing and fallen) habitat. The presence of mature coppice stools that have now developed into trees make the reintroduction of coppicing problematic (as trees not coppiced for a long time may be killed by cutting), management to bring the wood back into working coppice would also be time consuming and likely prohibitively expensive.

#### **Little Wood (coppiced with deer fence)**

The overall management aim for the woodland was to restore coppicing to regenerate the ground flora and associated insect assemblages. The presence of a high wire fence around the wood will aid the restoration; it will be possible to coppice trees without non-native deer (muntjac *Muntiacus reevesi* and fallow *Dama dama*) browsing the regrowth. Both non-native deer species have established high densities in the area due to a lack of natural predators or culling. Coppicing has historically been practiced as evidenced by the presence of several large *C. betulus* stools on the western edge of the wood. During the winter of 2009/10, all *A. campestre* and *C. betulus* trees in a 75 x 75 m coupe (0.5 ha) were coppiced (approximately 25% of the woodland area).

Besides the reintroduction of coppicing, selected thinning of replanted *F. excelsior* let more light reach the woodland floor. Dead wood was stacked and left in piles to provide habitat for saproxylic invertebrates and fungi.

### **Nor Wood (copparded, no deer fence)**

The overall management aim was to introduce an experimental woodland practice to regenerate the ground flora and insect assemblages. However, the absence of a deer fence around the woodland prohibits the use of coppicing. Pollarding has historically been practiced in the woodland as evidenced by the presence of several large *C. betulus* pollards on the northern edge of the wood; cutting of trees at a high height (2-5 m) prevents deer grazing the regrowth, but from a practical viewpoint can be time consuming and expensive. Therefore, a cross between coppicing and pollarding was trialled, 'copparding' involved the cutting of trees at a height of 6 ft negating the need for expensive tree surgery to pollard the upper limbs, and an extensive length of fence to prevent deer grazing coppice regrowth. During the winter of 2009/10, all *A. campestre* and *C. betulus* trees in a 75 x 75 m (c. 0.5 ha) coupe were copparded at a height of 2 m. Several mature *F. excelsior* were left uncut as standards

### **White's Wood (coppiced, no deer fence)**

The overall management aim for White's Wood was to restore traditional woodland practices to regenerate the ground flora and insect assemblages. To provide a contrast to coppicing in Little Wood (which had a deer fence) and Nor Wood (copparding at 2 m height was undertaken), it was planned to coppice trees normally (cutting as low to the ground as possible) in White's Wood to ascertain the level of coppice regrowth with uncontrolled deer grazing. If coppice regrowth did not occur due to excessive deer browsing of emerging shoots, then a glade will have been created allowing light to reach the woodland floor and insects to persist in the interior of the wood. Therefore, White's Wood will have been enhanced in either scenario. During the winter of 2009/10, all *A. campestre* and *C. betulus* trees in a 75 x 75 m (c. 0.5 ha) coupe were coppiced to ground level.

### **Monitoring of thermophilous insect response to management**

The focus was to determine the species richness (total number of species in a 75 x 75 m area) of butterflies (Lepidoptera), grasshoppers/crickets (Orthoptera) and bumblebees (Hymenoptera; *Bombus* spp.). In the UK, these groups comprise fairly conspicuous, often large insects, the adults of which are relatively easy to survey in warm, dry, calm weather conditions during periods of peak abundance (spring-autumn). Some species of butterflies and grasshoppers are also considered indicators of 'healthy' habitat and may respond rapidly to coppicing. Where it was not possible to accurately identify similar species in the field (without capture) they were lumped together for recording purposes and treated as one species when



data were analysed. In this survey buff-tailed bumblebee *Bombus terrestris* and white-tailed bumblebee *Bombus lucorum* were grouped together due to difficulties in distinguishing workers in the field (Benton 2000).

The four survey days (two before woodland management and two after coppicing) were all warm ( $>17^{\circ}\text{C}$ ) and relatively sunny, therefore insects in the target groups were likely to be active, hence found easily. Surveys were undertaken in July 2008 (for peak abundance of summer insects) and May 2009 (spring bumblebees and butterflies) prior to coppicing and coppicing in winter 2009/10. Post-coppicing surveys were undertaken in May and July 2010 to monitor the initial insect response to opening up of the tree canopy. Surveys were conducted between 09:00 h and 17:00 h. A total of 30 minutes was spent searching a 75 x 75 m area in each of the four woodlands on the four survey occasions; this was felt adequate to allow comparison between insect species richness pre- and post-coppicing. No abundance data were collected.

## Results

Coppicing of the ancient woodlands led to substantial increases in the species richness of thermophilous insects (Table 1). For example, in Little Wood and White's Wood there was a three-fold increase in total insect species richness, compared to a two-fold increase in Nor Wood. In Enville Wood (no coppicing and a control), species richness increased nearly three-fold, mirroring the increases in the other woodlands. However, despite these substantial increases in all of the woodlands, Enville Wood, which had a more closed canopy compared to the coppiced woods, was still comparatively species poor (Table 1). This may be due to the high forest conditions that were present pre-coppicing that were not found in the other woodlands, which had more developed glade systems than Enville Wood (in Nor Wood a wide ride was also present). The low species richness may also reflect the absence of coppicing for a greater length of time in Enville Wood than the other woodlands, which had many coppice stools and boundary pollards.

Coppicing seemed to benefit brown argus *Aricia agestis*, small copper *Lycaena phlaeas*, and white-letter hairstreak *Satyrium w-album*, which were all recorded in Little Wood for the first time after winter coppicing. *Aricia agestis* and *L. phlaeas* are often insects of grassland habitats, but both can be found in woodland clearings, although breeding is unlikely. *S. w-album* is usually only observed in association with elms *Ulmus* spp. and prefers to feed on aphid honeydew in the canopy. Butterflies seemed to be making extensive usage of the regenerating bramble *Rubus fruticosus* (particularly *S. w-album*) and creeping thistle *Cirsium arvense* that were found in the coppice coupe. Ringlet *Aphantopus hyperantus* seemed to benefit from coppicing in Nor Wood and coppicing in White's Wood. In all three woodlands, large skipper *Ochlodes sylvanus* was found for the first time after winter cutting, suggesting that opening up of the canopy in all of the woods was highly beneficial for this butterfly.

Insect order/species	Enville Wood (control)		Little Wood (coppice)		Nor Wood (coppard)		White's Wood (coppice)	
	2008	2010	2008	2010	2008	2010	2008	2010
<b>Butterflies (Lepidoptera)</b>								
Brown argus <i>Aricia agestis</i>				x				
Comma <i>Polygonia c-album</i>	x	x		x				
Common blue <i>Polyommatus icarus</i>				x				
Gatekeeper <i>Pyronia tithonus</i>		x		x		x		x
Green-veined white <i>Pieris napi</i>				x		x	x	x
Holly blue <i>Celastrina argiolus</i>								x
Large skipper <i>Ochlodes sylvanus</i>				x		x		x
Large white <i>Pieris brassicae</i>	x	x	x	x	x	x	x	x
Meadow brown <i>Maniola jurtina</i>		x	x	x	x	x		x
Orange-tip <i>Anthocharis cardamines</i>							x	x
Painted lady <i>Vanessa cardui</i>								
Peacock <i>Inachis io</i>		x	x					x
Red admiral <i>Vanessa atalanta</i>		x				x		
Ringlet <i>Aphantopus hyperantus</i>			x	x		x		x
Small copper <i>Lycaena phlaeas</i>				x				
Small tortoiseshell <i>Aglais urticae</i>				x	x			
Small white <i>Pieris rapae</i>				x	x	x		
Speckled wood <i>Pararge aegeria</i>			x		x	x	x	x
White-letter hairstreak <i>Satyrrium w-album</i>				x				
<b>Grasshoppers (Orthoptera)</b>								
Dark bush-cricket <i>Pholidoptera griseoptera</i>	x		x	x		x	x	x
Meadow grasshopper <i>Chorthippus parallelus</i>				x		x		x
Roesel's bush-cricket <i>Metrioptera roeselii</i>				x		x		
<b>Bumblebees (Hymenoptera)</b>								
Buff/white-tailed bumblebee <i>Bombus lucorum/terrestris</i>		x	x	x	x	x		x
Common carder bee <i>Bombus pascuorum</i>				x		x		
Garden bumblebee <i>Bombus hortorum</i>				x				x
Red-tailed bumblebee <i>Bombus lapidarius</i>				x	x	x		x
Vestal cuckoo bee <i>Bombus vestalis</i>		x		x		x		x
<b>Total number of species</b>	<b>3</b>	<b>8</b>	<b>7</b>	<b>21</b>	<b>7</b>	<b>16</b>	<b>5</b>	<b>16</b>

Bumblebees also seemed to benefit from coppicing, indeed in Little Wood, common carder bee *Bombus pascuorum*, garden bumblebee *Bombus hortorum*, red-tailed bumblebee *Bombus lapidarius* and vestal cuckoo bee *Bombus vestalis* were all recorded after winter coppicing suggesting that opening up of the woodland canopy greatly enhanced the habitat for workers in particular. Forage sources were mainly *R. fruticosus* and *C. arvensis*, there was no evidence from the May surveys of queens visiting *H. non-scripta* as suggested in the literature.

Three species of Orthoptera were recorded in the woodlands, however, meadow grasshopper *Chorthippus parallelus* and Roesel's bush-cricket *Metrioptera roeselii* were only found after coppicing (Table 1). Dark bush-cricket *Pholidoptera griseoaptera* only seemed to benefit from coppicing in Nor Wood, in which it appeared post cutting.

### Discussion

This study provides more evidence that thermophilous insects benefit greatly from coppicing, particularly in the post-cut year. The UK BAP species, *S. w-album*, was recorded from the coupe in Little Wood nectaring on *R. fruticosus*. This canopy dwelling butterfly may benefit from the increased nectar availability in newly coppiced areas. Other locally common butterflies in Essex, such as *Aricia agestis*, *Aphantopus hyperantus* and *L. phlaeas*, were also observed after coppicing and coppicing in the woodlands. These butterflies were not observed in the dark and shady high forest conditions in Enville Wood, which only had commoner species in both 2008 and 2010. A crucial factor in the seemingly rapid colonisation of the coupes by butterflies may be the location of all cut areas near to the edges of the woodlands, allowing insects from the buffering flower-rich field margins (c. 6 m wide) to enter the coppiced plots in search of nectar. Both Little Wood and White's Wood were bordered on at least two sides by organic arable fields, which received no chemical input. The farmland in the study area has been converted to organic status for 5-10 years leading to a higher diversity of insect species than prior to conversion (Gardiner 2008). Over 2 km of new hedgerows were planted with native species on the farm in 2008/09; these will provide important linkages between the four ancient woodlands in decades to come, allowing species to move between the woods.

Coppicing in Nor Wood led to a smaller increase in insect species richness than in Little Wood and White's Wood, this may be due to the coupe being located on the more shady northern edge of the woodland, the absence of wide flower-rich field margins (although a grassy footpath is present), and the non-organic status of the adjacent arable fields. However, Nor Wood does benefit

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Table 1. Insect species recorded in the four ancient woodlands in 2008 and 2009 (pre-coppicing and coppicing), and 2010 (first year after winter coppicing and coppicing) (X indicates presence; no attempt was made to quantify numbers of individuals seen).

from the presence of a long established woodland ride which is *c.* 20-30 m wide, with plenty of fringing *R. fruticosus*. In the July 2010 survey, three male *Argynnis paphia* were seen along this woodland ride (which is *c.* 200 m from copparded coupe), there being no previous record of this Regional Priority Species in the wood, which became extinct in Essex in the 1950s. However, in 2010, there have been several sightings of *Argynnis paphia* in west Essex suggesting a recolonisation of the county (Knowles 2010). This coppicing dependent butterfly is likely to benefit greatly from the rotational ride management and reinstatement of woodland management in Nor Wood. Its larval foodplant, *V. riviniana*, grows within the wood and should increase in abundance in the copparded coupe. Purple hairstreak *Neozephyrus quercus* was also sighted for the first time along the ride in 2010, this localised insect should also benefit from active woodland management in Nor Wood.

Orthoptera seemed to benefit from the reinstatement of active woodland management, particularly *C. parallelus* and *M. roeselii*. The enhanced microclimate has led to increases in the species richness of grasshoppers. The dark and cool microclimatic conditions of the mature woodlands pre-coppicing were particularly unfavourable for thermophilous insects. The open coppiced areas will also have additional benefits for insects due to the shelter from the wind provided by the surrounding woodland (Unwin & Corbet 1991), these kinds of 'sun trap' sites have been found to be favourable for Orthoptera (Gardiner & Dover 2008). A long-term aim for the ancient woodlands should be to coppice or coppard additional coupes, perhaps at five year intervals if regrowth occurs.

In the coppiced areas there was also plenty of forage for bumblebees, which is reflected by the increase in species richness in Little Wood and White's Wood. Bumblebee workers were observed foraging mainly on *C. arvensis*, *R. fruticosus* and enchanter's nightshade *Circaea lutetiana* in the newly coppiced plots in the July surveys. However, no queens were sighted foraging on *H. non-scripta* in the May surveys (either before or after woodland management), despite assertions that they may do so even in heavily shaded woodlands (Benton 2000).

Despite the active copparding and coppicing management in three of the ancient woodlands, it is important to remember that high forest conditions are also important in that they mimick natural processes and provide plenty of dead wood for saproxylic invertebrates. Enville Wood was left unmanaged in this study to provide high forest (e.g. closed canopy) with an abundance of dead wood. However, even in the absence of woodland management, species richness still increased in the survey in Enville Wood, particularly for butterflies (Table 1) which seemed to take advantage of nectar sources such as *R. fruticosus* in small open areas where the canopy had not closed over completely. Therefore, provided that open spaces are still present in high forest conditions due to gaps in the tree canopy (e.g. windblown trees), some thermophilous insects will still persist in the absence of coppicing.



### Acknowledgements

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### *Cynaeda dentalis* ([D. & S.]) (Lep.: Crambidae), larvae found in Devon

*Cynaeda dentalis* ([D. & S.]) is little known in Devon, the most westerly county from which it has been recorded in the British Isles. The larva had not been found there before 2011 and the only records of adults were of eight specimens from three localities. The first was given by J. F. Stephens just under 180 years ago (1834-35. *Illustrations of British entomology*. Haustellata volume 4, pages 60-61 and plate 33, fig. 1). Stephens states that 'In the collection of the late Mr. Haworth is a specimen of this rare insect, taken near London, by Mr. Knight, and I possess one taken several years since in Devonshire, not far from Tavistock [VC 3]'. Although the illustration on plate 33 is not very good, the text provides a detailed description. *Cynaeda dentalis* is a distinctive species unlike any other British Pyralid and so it appears that the identification of the Devonshire specimen must have been correct, but it seems unlikely that the moth was caught near Tavistock, unless it was either an immigrant or a wanderer from an English locality. This is because the larval foodplant, Viper's-bugloss *Echium vulgare*, which usually grows on light, often calcareous soils including shingle, has not been known to occur near Tavistock, which is acidic and on the south-west edge of Dartmoor. The next record is of six specimens taken in 1911 and labelled 'North Devon' (VC

4), now in the British Museum (Natural History). It is possible that these might have been collected at Braunton Burrows, the largest sand dune system in north Devon, because the larval foodplant is widespread there, although as noted below no larvae were found on a visit in 2011. The third record is of one moth at light on 27 June 2008 at Haven Cliff, part of the Axmouth to Lyme Regis Undercliffs (VC 3).

On 17 March 2011 a number of small larvae were found mining leaves of Viper's-bugloss in a very restricted area of those Undercliffs, at Culverhole, which is about a kilometre to the east of Haven Cliff. There were probably no more than 30 plants and almost all had at least one larva mining the leaves; most of the plants had several. Subsequent searches with Miss S. D. Beavan for larvae in April 2011 at Braunton Burrows and at Slapton (VC 3), where there are far more plants than at Culverhole, proved unsuccessful. — R. J. HECKFORD, 67 Newnham Road, Plympton, Plymouth, Devon PL7 4AW.

### Revised names of UK butterflies

UK butterflies are a small and very well-studied group of species. The widespread, almost ubiquitous, use of England vernacular names by those engaging in the study, recording and conservation of butterflies in the UK largely insulates people from the taxonomic rearrangements, instabilities and nomenclature changes that complicate the study of many other invertebrate groups. Nevertheless, scientific names are important and we take this opportunity to alert readers to the recent, comprehensive revision of the taxonomy of European butterflies and its implications for the species that breed-regularly in the UK.

The revision was undertaken by the Butterfly Conservation Europe Taxonomy Group, led by Rudi Verovnik and Martin Wiemers, but involving many of the most prominent butterfly taxonomists in Europe. Further information on the process and some of the decisions is given in Verovnik & Wiemers (2010. European butterflies – the taxonomy update. *Butterfly Conservation European Interest Group Newsletter* 8: 5-6) and the full taxonomy is available on the Fauna Europaea website ([www.faunaeur.org](http://www.faunaeur.org) version 2.4). The new taxonomy is already in use, for example in the latest European Red List of butterflies (van Swaay *et al.* 2011. Applying IUCN criteria to invertebrates: How red is the Red List of European butterflies? *Biological Conservation* 144: 470-478) and it has been adopted by Butterfly Conservation.

Only six changes, all at genus level, affect species that breed regularly in the UK. Three species (Purple Hairstreak, Large Blue and Peacock) are placed into different genera, while the other three (Silver-studded Blue, Brown Argus and Northern Brown Argus) revert to genera that will be very familiar to UK Lepidopterists. However, for completeness the full listing is provided in the table below, with species grouped into currently accepted families but, for ease of use, following the same species order used in most field guides.

In addition, although it does not yet form part of the new butterfly taxonomy listed on Fauna Europaea, we include Cryptic Wood White *Leptidea juvernica*, which is newly described and to which all Irish specimens formerly considered to be Réal's Wood White *L. reali* have now been ascribed (Dincă *et al.* 2011. Unexpected layers of cryptic diversity in wood white *Leptidea* butterflies. *Nature Communications* 2: 324). Thus only Wood White and Cryptic Wood White now occur in the UK and Republic of Ireland (and elsewhere across Europe), with Réal's Wood White seemingly confined to the Iberian Peninsular and south-west France.

<b>Vernacular name</b>	<b>Scientific name</b>
<b>Family HesperIIDae</b>	
Chequered Skipper	<i>Carterocephalus palaemon</i> (Pallas, 1771)
Small Skipper	<i>Thymelicus sylvestris</i> (Poda, 1761)
Essex Skipper	<i>Thymelicus lineola</i> (Ochsenheimer, 1808)
Lulworth Skipper	<i>Thymelicus acteon</i> (Rottemburg, 1775)
Silver-spotted Skipper	<i>Hesperia comma</i> (Linnaeus, 1758)
Large Skipper	<i>Ochlodes sylvanus</i> (Esper, 1777)
Dingy Skipper	<i>Erynnis tages</i> (Linnaeus, 1758)
Grizzled Skipper	<i>Pyrgus malvae</i> (Linnaeus, 1758)
<b>Family PapilionIDae</b>	
Swallowtail	<i>Papilio machaon</i> (Linnaeus, 1758)
<b>Family PierIDae</b>	
Wood White	<i>Leptidea sinapis</i> (Linnaeus, 1758)
Cryptic Wood White	<i>Leptidea juvernica</i> (Williams, 1946)
Clouded Yellow	<i>Colias croceus</i> (Fourcroy, 1785)
Brimstone	<i>Gonepteryx rhamni</i> (Linnaeus, 1758)
Large White	<i>Pieris brassicae</i> (Linnaeus, 1758)
Small White	<i>Pieris rapae</i> (Linnaeus, 1758)
Green-veined White	<i>Pieris napi</i> (Linnaeus, 1758)
Orange-tip	<i>Anthocharis cardamines</i> (Linnaeus, 1758)
<b>Family LycaenIDae</b>	
Green Hairstreak	<i>Callophrys rubi</i> (Linnaeus, 1758)
Brown Hairstreak	<i>Thecla betulae</i> (Linnaeus, 1758)
Purple Hairstreak	<i>Favonius quercus</i> (Linnaeus, 1758)
White-letter Hairstreak	<i>Satyrium w-album</i> (Knoch, 1782)
Black Hairstreak	<i>Satyrium pruni</i> (Linnaeus, 1758)
Small Copper	<i>Lycaena phlaeas</i> (Linnaeus, 1761)
Small Blue	<i>Cupido minimus</i> (Fuessly, 1775)
Silver-studded Blue	<i>Plebejus argus</i> (Linnaeus, 1758)
Brown Argus	<i>Aricia agestis</i> (Denis & Schiffermüller, 1775)
Northern Brown Argus	<i>Aricia artaxerxes</i> (Fabricius, 1793)
Common Blue	<i>Polyommatus icarus</i> (Rottemburg, 1775)
Chalkhill Blue	<i>Polyommatus coridon</i> (Poda, 1761)

Adonis Blue	<i>Polyommatus bellargus</i> (Rottemburg, 1775)
Holly Blue	<i>Celastrina argiolus</i> (Linnaeus, 1758)
Large Blue	<i>Phengaris arion</i> (Linnaeus, 1758)
<b>Family Riodinidae</b>	
Duke of Burgundy	<i>Hamearis lucina</i> (Linnaeus, 1758)
<b>Family Nymphalidae</b>	
White Admiral	<i>Limenitis camilla</i> (Linnaeus, 1764)
Purple Emperor	<i>Apatura iris</i> (Linnaeus, 1758)
Red Admiral	<i>Vanessa atalanta</i> (Linnaeus, 1758)
Painted Lady	<i>Vanessa cardui</i> (Linnaeus, 1758)
Small Tortoiseshell	<i>Aglais urticae</i> (Linnaeus, 1758)
Peacock	<i>Aglais io</i> (Linnaeus, 1758)
Comma	<i>Polygonia c-album</i> (Linnaeus, 1758)
Small Pearl-bordered Fritillary	<i>Boloria selene</i> (Denis & Schiffermüller, 1775)
Pearl-bordered Fritillary	<i>Boloria euphrosyne</i> (Linnaeus, 1758)
High Brown Fritillary	<i>Argynnis adippe</i> (Denis & Schiffermüller, 1775)
Dark Green Fritillary	<i>Argynnis aglaja</i> (Linnaeus, 1758)
Silver-washed Fritillary	<i>Argynnis paphia</i> (Linnaeus, 1758)
Marsh Fritillary	<i>Euphydryas aurinia</i> (Rottemburg, 1775)
Glanville Fritillary	<i>Melitaea cinxia</i> (Linnaeus, 1758)
Heath Fritillary	<i>Melitaea athalia</i> (Rottemburg, 1775)
Speckled Wood	<i>Pararge aegeria</i> (Linnaeus, 1758)
Wall	<i>Lasiommata megera</i> (Linnaeus, 1767)
Mountain Ringlet	<i>Erebia epiphron</i> (Knoch, 1783)
Scotch Argus	<i>Erebia aethiops</i> (Esper, 1777)
Marbled White	<i>Melanargia galathea</i> (Linnaeus, 1758)
Grayling	<i>Hipparchia semele</i> (Linnaeus, 1758)
Gatekeeper	<i>Pyronia tithonus</i> (Linnaeus, 1767)
Meadow Brown	<i>Maniola jurtina</i> (Linnaeus, 1758)
Ringlet	<i>Aphantopus hyperantus</i> (Linnaeus, 1758)
Small Heath	<i>Coenonympha pamphilus</i> (Linnaeus, 1758)
Large Heath	<i>Coenonympha tullia</i> (Müller, 1764)

Taxonomic revisions will continue, of course, in the future and the increasing use of DNA and other molecular techniques will undoubtedly lead to further revisions. Nevertheless, to facilitate the flow of information internationally and to minimise misunderstandings, we urge the adoption of the scientific names listed here. We thank Rudi Verovnik, Martin Wiemers and an anonymous referee for information and helpful comments. – RICHARD FOX, Butterfly Conservation, Manor Yard, East Lulworth, Dorset BH20 5QP (E-mail: rfox@butterfly-conservation.org) and SIMON SPENCER, European Interest Group, Rhoslan, Brithdir, Llanfyllin, Powys SY22 5HB (E-mail: cerisyi@btinternet.com).



## ADVENTIVE BRASSOLINA (LEP.: NYMPHALIDAE) IN BRITAIN AND ELSEWHERE

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### Abstract

In two earlier papers (1986, 1991), I recorded the accidental occurrences of neotropical Nymphalidae of the subtribe Brassolina [formerly the family Brassolidae] (*Opsiphanes tamarindi*, *Opsiphanes cassiae*, *Caligo memnon* and *Caligo* sp.) in Britain, Holland and New Zealand. Since that time, new British, Dutch, New Zealand and USA imports have come to light.

**Keywords:** *Caligo*, *Opsiphanes*, *Brassolini*, accidental imports

### Introduction

The larvae of many Brassolina feed on banana leaves – at times in sufficiently large numbers to be a serious pest. Most adventive occurrences can be traced back to being imported with bananas – probably as pupae. However, the banana-feeding Brassolina are easy to rear and are a common component of butterfly houses. There is always the possibility that some of the more modern records below could be escapees from a butterfly house.

### List of imports

For completeness, I list below the previously known occurrences:

*Opsiphanes tamarindi*, Eastbourne in 1931 (Andrews, 1931)

*Opsiphanes tamarindi*, London 1937 (Thompson, 1937)

*Opsiphanes tamarindi tamarindi?*, Edinburgh in 1978 (Thompson, 1980)

*Opsiphanes tamarindi tamarindi?*, Glasgow in 1979 (Thompson, 1980)

*Opsiphanes tamarindi tamarindi*, Ramsey Market in 1981 (J. Heath, pers. commn)

*Opsiphanes tamarindi tamarindi?*, Bridlington in 1984 (Winter, 1985; see also Frost, 2005, p.294)

*Opsiphanes tamarindi tamarindi?*, Leicester in 1984 (Lott, 1986)

*Opsiphanes tamarindi tamarindi?*, Rotterdam in 1923 (Jurriaanse, 1923)

*Opsiphanes tamarindi corrosus*, Amsterdam, 1963

*Opsiphanes tamarindi corrosus*, New Zealand (Harris, pers. commn)

*Opsiphanes cassiae*, London in 1937 (Tulloch, 1939)

*Caligo illioneus* Huddersfield (Mosley, 1926). Since my original paper I have now seen this specimen and able to determine it to species level.

*Caligo [prometheus] memnon*, Rotterdam in 1977 (Boot, 1978).

Additional specimens include:

*Opsiphanes tamarindi* (caterpillar), Shetland Isles (Anon., 2004a)

*Opsiphanes tamarindi tamarindi*, Birkenhead, 2002 (Scovell, 2003, pl.8, fig.20)

*Opsiphanes cassina [cassina]*, New Zealand (Harris, 1982)

*Caligo prometheus memnon*, Hull (Anon., 2004b)

*Caligo zeuxippus zeuxippus*, Utrecht, 1959 (Leiden Museum)

*Caligo telamonius menus*, Cleveland Heights, Ohio, 1982 (Academy of Natural Sciences, Philadelphia [ANSP])

### Comments

The Shetland island occurrence is somewhat bizarre. A caterpillar was found walking across the carpet at Whalsay Care Centre. It was offered all sorts of leaves as food, but not surprisingly, rejected them all – it survived for at least eight days, and then presumably died. The coloured photograph of the caterpillar showed it to be a typical brassolina. It could belong to one of several genera, but *Opsiphanes tamarindi* is most likely.

The 2002 find on 1 September was a female on bananas at Tesco's supermarket at Bidston near Birkenhead. The bananas had come from Colombia. In the box of bananas were several wasps and some 'cocoons'. Presumably, the butterfly had travelled as a pupa.

A somewhat battered female *Caligo memnon* was found in a conservatory near Hull Docks in July 2004. The current taxonomic nomenclature of some taxa of *Caligo* is a bit confused, with species *memnon* downgraded to a subspecies and variously included in species *prometheus* (characterised by an unmarked, or only very lightly marked area at the lower margin of the hindwing underside – just above the apical ocellus of the hindwing – as in the above figured specimen) or *telamonius* (the above area is much heavily marked as in the specimen figured herein).

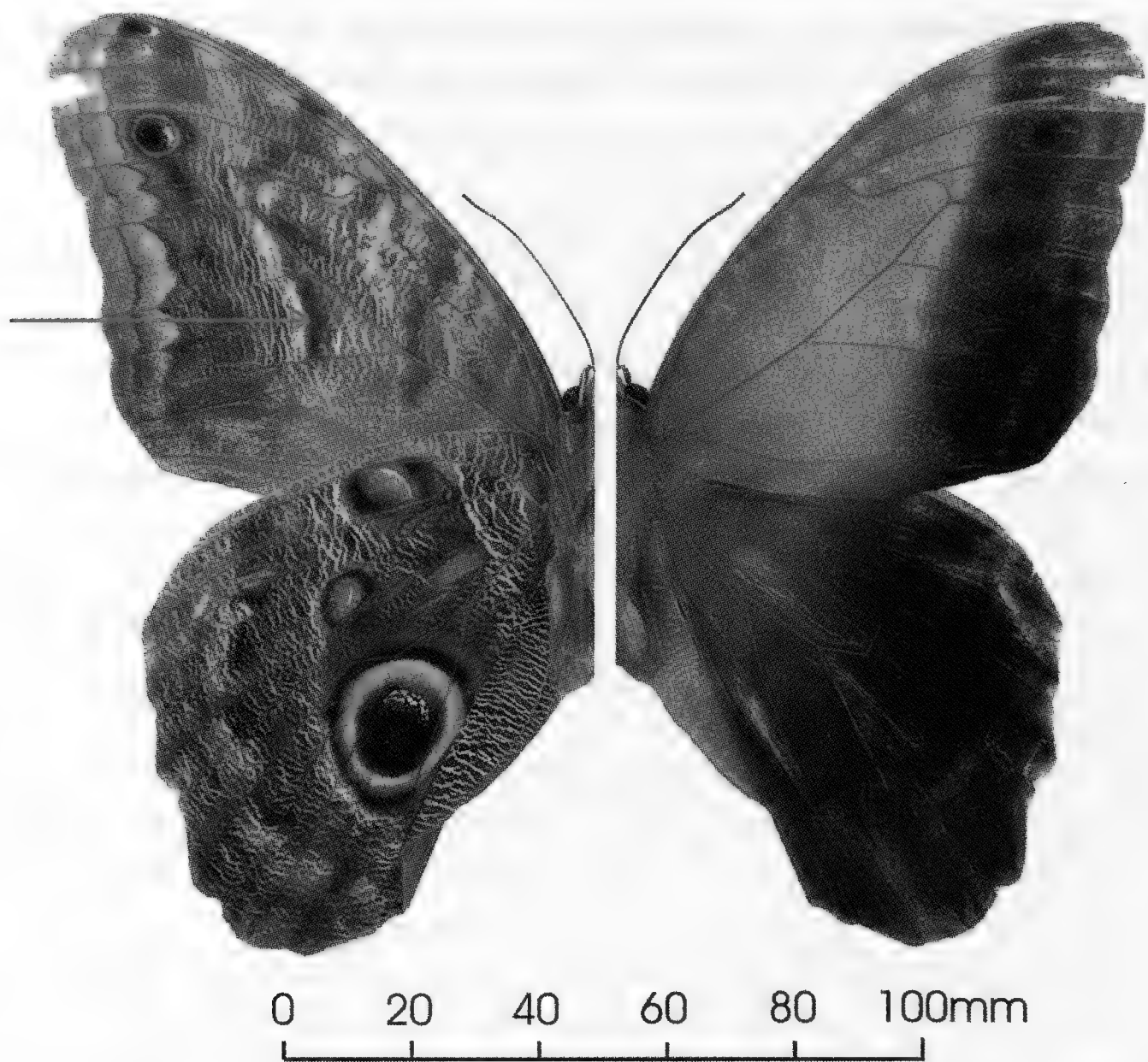
The male *Caligo zeuxippus* in Leiden Museum found at Utrecht was imported with bananas from Ecuador on 27 March 1959. It belongs to the nominate race.

The male *Caligo telamonius menus* in the ANSP (see figured specimen) was found on bananas from Panama in Russo's Market, Cleveland Heights, Ohio, on 19 June 19 1982.

The *Opsiphanes* recorded in New Zealand are documented by Harris (1982), a paper not seen by me when I wrote my 1986 and 1991 papers. The records of two specimens of *Opsiphanes cassina* are interesting, as palms, not bananas, are the larval foodplants of *cassina*. If these specimens (undoubtedly *cassina* from the description) really came from Ecuador, then they belong to the nominate taxon.

### Acknowledgements

Thanks are due to Mrs Frances Ratter for bringing the occurrence of the Shetland Isles caterpillar to my attention and providing me with a copy of the newspaper report. Mrs van Bekkum-Ansari, the Lepidoptera Collection Manager at the National Museum, Leiden, kindly gave me ready access to the collections in her charge. Similarly, Jason Weintraub allowed me to examine the butterfly collections at the Academy of Natural Sciences, Philadelphia (ANSP). Chris Yates at the Tolson Memorial Museum allowed me to examine the male *Caligo illioneus* found at Huddersfield.



**Plate 27.** Male *Caligo telamonius menus* Russo's Market, Cleveland Heights, Ohio, 19 June 1982 (ANSP).

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**Maple Pug *Eupithecia inturbata* (Hubner) (Lep.: Geometridae) in Roxburghshire, the first confirmed Scottish records**

In July 2011, Maple Pug *Eupithecia inturbata* was recorded at two different sites in Roxburghshire VC 80, as follows:

11 July 2011, Tweedbank, Galashiels, MV light trap, Andrew Bramhall; det. R. Leverton and D. Brown.

29 July 2011, female, Crow Wood, Nether Blainslie, MV light Trap, Andrew Fitchett, det. Roy Leverton (in coll. National Museums of Scotland).

These appear to be the first fully supported records of Maple Pug from Scotland. There are several previous claims, from Dumfriesshire (VC 72), Ayrshire (VC 75) and Peeblesshire (VC 78), but all are from Rothamsted Insect Survey light traps and no specimens or photographs exist. These records were not accepted by Riley, A. M. & Prior, G. (2003. *British and Irish Pug Moths*. Harley Books, Colchester) who map them as uncertain and state 'apparently absent from Scotland' in the text. Perhaps significantly, Riley himself had worked at Rothamsted! The Dumfriesshire records, for example, are of eight caught in the RIS trap at Waterside Mains, Keir, during July and August 1980, with none before or since (per Keith Naylor). This is a most unlikely scenario.

The present Roxburgh sites are about 9km apart and both are within the River Tweed catchment. This suggests that Maple Pug could now be resident in that area rather than a vagrant or stray. Many moths have extended their ranges northwards into Scotland in recent years, but Maple Pug would be a most unexpected candidate because its only recorded British foodplant, Field Maple *Acer campestre*, is absent. Previously the range of Maple Pug had closely matched that of its foodplant, extending only up to north-east Yorkshire as the National Moth Recording Scheme atlas shows (Hill, L., Randle, Z., Fox, R. & Parsons, M., 2010. *Provisional Atlas of the UK's Larger Moths*. Butterfly Conservation, Wareham, Dorset). In Roxburghshire it would have to be using something different. Mironov (2003. *The Geometrid Moths of Europe* vol. 4, Apollo Books, Stenstrup) mentions Norway Maple *A. platanoides* as used in Finland and this is present near the Tweedbank site, a mature village garden. However, at Crow Wood the trap was placed near to some scrubby Sycamore *A. pseudoplatanus*, an acceptable alternative for many caterpillars associated with Field Maple, but never reported for this species.

It may be worth setting out the chain of events that led to the initial record, because it followed a very modern pattern. Malcolm Lindsay, another Borders observer, sent RL a digital photograph via e-mail of a pug (*Eupithecia*) that had been puzzling the local moth group, with a request for identification. The pug was distinctive enough in shape and markings, but did not fit any of the species normally on the wing in Scotland in July. Yet it looked familiar to RL, who had previously lived in Sussex. Though unlikely, Maple Pug was the closest fit, and this opinion was strengthened after checking the various moth websites; the German website <http://www.lepiforum.de> had the best selection of images. One crucial bit of evidence was lacking: the size of the moth, Maple Pug being one of



our smallest species. The image gave no indication of scale and the specimen had not been retained. However, the moth had been photographed on the lid of a pot, which AB duly measured, enabling the wingspan to be calculated. At about 17mm, it was indeed small even for a pug, clinching the identification. The image was sent to David Brown in Warwickshire for a second opinion and he concurred.

Digital photography, e-mails, local moth groups, foreign websites – how things have changed since the days of writing ‘Dear Sir’ letters to the British Museum of Natural History and waiting weeks for a reply! But all too often, today’s important discoveries remain in electronic form and are never published in the entomological journals to provide a permanent record, hence the purpose of this note.— ROY LEVERTON, Whitewells, Ordiquhill, Cornhill, Banffshire AB45 2HS, ANDREW BRAMHALL, 2 Abbotsferry Road, Tweedbank, Galashiels TD1 3RX & ANDREW FITCHETT, 1 The Croft, Nether Blainslie, Galashiels TD1 2QF.

**EDITORIAL COMMENT:** Oh, how I do so agree with the view that it is *absolutely essential* for important data to be recorded in one of the long-established entomological journals – where contributions are subjected to at least a minimum of peer-review rather than being blindly accepted without such checking. Anyone can upload data to the Internet and there is no way of verifying it unless the author has followed the strict rules of publishing – including the referencing of all sources of quoted information. Further, whilst this editor freely admits to dinosaur tendencies and is aware that the world of technology is leaving him behind, at the present moment the Internet does not offer a guarantee of permanence, in spite of what its proponents might say. The day will likely come when parts of the the Internet will gain the same permanence as libraries, but until then important information should be written down in one of the major world languages and published on paper after critical review.

***Callophrys rubi* (L.) ab. *dennisorum* Campbell ab. nov. (Lep.: Lycaenidae)  
Green Hairstreak: A new aberration discovered in Buckinghamshire**

On 24 April 2011 Chris and Pat Dennis of Princes Risborough, Buckinghamshire discovered a hitherto unknown aberration of the Green Hairstreak. The specimen was found at a Wildlife Trust site in the Chiltern Hills, Buckinghamshire.

A photograph of the aberration taken by Chris Dennis was initially sent to me in my capacity as Webmaster of Butterfly Conservation’s Upper Thames Branch ([www.upperthames-butterflies.org.uk](http://www.upperthames-butterflies.org.uk)), and realising that there was something particularly unusual about the ‘hairstreak’ marking on the underside of the wings, I endeavoured to discover if this was a named aberration of the species. The photograph was forwarded to Piers Vigus (an amateur lepidopterist of Compton Chamberlayne, Wiltshire), who, realising that this was indeed a rare aberration, subsequently sent a copy of the image to the British Museum (Natural History) for identification. Staff at the BM(NH) were able to confirm that there are no specimens in the British collection that resemble the discovery, nor could a similar



Plate 28. *Callophrys rubi* (L.) ab. *dennisii* Campbell ab. nov.

© Chris Dennis, 2011

specimen be found in the foreign collections. Geoff Martin, the Collections Manager at the BM(NH), has therefore been able to confirm that to his knowledge this aberration is, to date, totally undescribed.

In accordance with established convention, the aberration is named *Callophrys rubi* ab. *dennisorum* and the description follows: *White 'hairstreak' markings on the underside of the hind wings very well developed and distinctly enlarged, tending to radiate towards the outer margin.*

Thanks to Piers Vigus whose extensive knowledge of butterfly aberrations greatly assisted in the identification of this new aberration and to Geoff Martin, Collections Manager at the BM(NS) South Kensington, London. — WENDY CAMPBELL, West End Cottage, Church Lane, Chearsley, Bucks HP18 0DH.

### **The yellow ab. *lutescens* Stdgr. of the Jersey Tiger *Euplagia quadripunctaria* (Poda) (Lep.: Arctiidae)**

It was interesting to read the comments of Costen & Laylor (*Antea*: 157-158) concerning the yellow ab. *lutescens* Stdgr. of *Euplagia quadripunctaria* on Guernsey. Although I can quote no actual figures, it was my experience, when seeking the Jersey Tiger in the Newton Abbot area of Devon at odd times in the 1970s and early 1980s, that the yellow and orange forms were in an abundance of probably 1:4 compared to the red form, with probably one orange to three yellow. This was based on searches of walls and fences during occasional and brief daytime visits. During over 40 years of sporadic visits to family in west Devon, I

have only ever seen one Jersey Tiger at light. — ROGER HAYWARD, The Corner House, Nine Mile Ride, Wokingham, Berkshire RG40 3DY.

**An early Streak *Chesias legatella* (D. & S.) (Lep.: Geometridae)**

On examining the night's catch on the morning of 12 August 2011, I found 26 macro moths of 15 species – typical of the poor catches here this summer. Among them was a fresh specimen of the Streak, a surprising capture for that time of year. This is one of the commoner species in the garden. During the five autumns that we have lived here, from 2006 to 2010, the average first date for the Streak has been 9 October, with peak catches of 13 on 31 October and 3 November 2007, 25 October 2008, and 26 October 2009. — ROGER HAYWARD, The Corner House, Nine Mile Ride, Wokingham, Berkshire RG40 3DY.

***Acleris abietana* (Hb.) (Lep.: Tortricidae) new to the Roxburghshire (VC 80) county list**

Examination by Bob Palmer in 2010 of a stored collection of microlepidoptera from the Rothamsted Insect Survey light-trap at Sourhope near Kelso (site 544: O.S. grid reference NT 846202) led to the discovery of a species new to the county list: a single specimen of *Acleris abietana*, caught during the period 9-16 September 2009.

The first British record was of a female at Aberfoyle in Perthshire on 11 October 1965, in an MV trap operated by D. L. Coates (Pelham-Clinton, E. C., 1967. *Ent. Rec.* 79: 151 and cited in Bradley, J. D., Tremewan, W. G. & Smith, A., 1973. *British Tortricoid Moths*. The Ray Society). It inhabits coniferous woodland, where the larva feeds from a loose web spun amongst the needles of a variety of conifers, including *Pinus*, *Abies* and *Picea* in Europe, although the larval stages are apparently unknown in Britain (Bradley, J. D., Tremewan, W. G. & Smith, A., 1973. *British Tortricoid Moths, Cochylidae and Tortricidae: Tortricinae*. Ray Society). Razowski (2002. *Tortricidae of Europe. Volume 1: Tortricinae and Chlidanotinae*. Slamka) lists *Abies alba*, *Pinus* and *Picea excelsa* – also, presumably, from non-British sources). There are unsubstantiated reports of the use of Norway Spruce *Picea abies* on the Internet. No doubt the ubiquity of the food plants has assisted in its subsequent spread to a number of other sites in Scotland and northern England.

*Acleris abietana* can be distinguished by the numerous and raised dark scale tufts on the forewing; the rough scales of the costa are much longer than in other British *Acleris* species (Bradley, *et al*, op. cit.).

My thanks to Bob Palmer for his continued hard work as one of Rothamsted's volunteer identifiers and for letting me know about this record, and to John Langmaid for confirming it as new to VC 80. — PHILIP J. L. GOULD, Co-ordinator of the Rothamsted Insect Survey Light-trap Network, Plant & Invertebrate Ecology Department, Rothamsted Research, Harpenden, Hertfordshire AL5 2JQ (E-mail: phil.gould@rothamsted.ac.uk).



**MACRO-MOTHS NEW TO BEDFORDSHIRE (VC 30) SINCE THE  
PUBLICATION OF *THE BUTTERFLIES AND MOTHS OF  
BEDFORDSHIRE* IN 1997, WITH COMMENTS ON SOME PREVIOUSLY  
PUBLISHED RECORDS**

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**Abstract**

A summary of the 27 macro-moth species that have been newly recorded in the English Vice County of Bedfordshire (VC 30) is presented. New information is also given on a further six species which have been previously recorded here.

**Keywords:** Lepidoptera, Bedfordshire, VC30, new county records

**Introduction to the records**

The purpose of this note is to place on record, for completeness, a summary of all 27 new macro-moth species that have been recorded in Bedfordshire (VC 30) since the publication of *The Butterflies and Moths of Bedfordshire* (Arnold, *et al.* 1997). In addition, there are comments on a further six species which were noted in Arnold *et al* for which the records were unconfirmed and there have been subsequent verified records, or there are earlier records that have come to light since its publication. The following uses the Bradley checklist numbers for the species (Bradley, 2000). All species have been referenced in various reports in *Bedfordshire Naturalist*, the annual Journal of Bedfordshire Natural History Society, except those occurring in 2010 and 2011, which are yet to be published. These moth reports are not referenced in the text, but are listed in the references at the end of this paper.

**Inventory of macro-moths new to VC30**

Abbreviations used:

RIS – Rothamsted Insect Survey

STW – Sewage Treatment Works

**Sesiidae**

369a *Pennisetia hylaeiformis* (Laspeyres) Raspberry Clearwing. 29.iii.2009 as a larva on raspberry *Rubus* sp canes in Studham and emerged as an adult 18.vii.2009 (C. R. B. Baker). There were further records of adults in 2009 at Clifton, Dunstable Downs and Studham. In 2010 an adult was recorded in Biggleswade.

**Saturniidae**

1643a *Saturnia pyri* ([Denis & Schiffermüller]) Great Peacock Moth. v.2004 Wooton (S. & A. Hawkins). Probably a captive-bred escape.

**Geometridae**

1718 *Phibalapteryx virgata* (Hufnagel) Oblique Striped. 6.viii.1997 Potton (J. E. Childs) and 7.viii.1998 Cockayne Hatley RIS trap (I. P. Woiwod) are the only VC30 records of this species.

1741 *Costaconvexa polygrammata* (Borkhausen) Many-lined. 7.v.2011 Eaton Ford (A. A. Lawrence).



- 1821 *Eupithecia valerianata* (Hübner) Valerian Pug. 12.vi.2006 near Turvey (H. A. Smith, det G. E. Higgs and L. J. Hill)
- 1826 *Eupithecia trisignaria* Herrich-Schäffer Triple-spotted Pug. 6.viii.2003 Maulden Wood (C. W. Plant). It has also been recorded in the Cockayne Hatley RIS trap in 2009 (I. P. Woiwod) and was recorded again at Maulden Wood and then Chicksands Wood in 2010 (A. M. & M. G. Banthorpe).
- 1833 *Eupithecia expallidata* Doubleday Bleached Pug. 17.vii.1999 Great Barford (M. Corley, gen.det.)
- 1841 *Eupithecia millefoliata* Rössler Yarrow Pug. ix.1998 Everton and Sandy Heath (J. Reid) as larvae feeding on the dried seed heads of Yarrow *Achillea millefolium*. The first adults were recorded 10.vii.2006 and 24.vii.2006 in the Eaton Bray II RIS trap (G. Buss, det P. J. L. Gould) (Gould 2008). There are now nine records in the VC30 database and the only record last year was a single larva found on a Yarrow seed-head in Maulden Wood 25.ix.2010 by the author.
- 1896 *Itame brunneata* (Thunberg) Rannoch Looper. 31.v.2009 one male Eaton Ford (A. A. Lawrence). This was during a period of irruption of this species into the UK from the continent.

#### Arctiidae

- 2043 *Eilema sororcula* (Hufnagel) Orange Footman. 31.v.2003 Maulden Wood (C. W. Plant). It subsequently turned up three times at Eaton Ford in 2006 and has been recorded at a number of sites in the county from 2007 onwards. There are now nearly 40 records in the database.
- 2067 *Euplagia quadripunctaria* (Poda) Jersey Tiger. 8.viii.2009 Biggleswade (K., P. & R. Sims). It was believed at the time that this was released from breeding stock but the timing fits with the usual dates of extra-limital records from the south London population. There were records in Hertfordshire, Middlesex and Essex about the same time. The occurrence of another specimen, again in early August, gives credence for the latter explanation.

#### Nolidae

- 2074a *Antichloris eriphia* (Fabr.) Banana Stowaway. 13.x.2009 The Lodge (RSPB Sandy) (J. E. Childs). This is a South American species so there is no doubt it was imported with the foodplant.

#### Noctuidae

- 2140 *Cerastis leucographa* ([D.& S.]) White-marked. There had been a report of one from 19.iv.1998 at Turvey Abbey (Br. J. Mayhead), which appears not to have been accepted by a past Recorder, and had remained unverified. The Turvey record has now been re-evaluated and accepted. Contemporaneous notes and a drawing from Br. Mayhead showed the salient features, and distribution maps from Northamptonshire show the species was present not far from the VC30 boundary in north Bedfordshire at that time. The current VC30 macro-moth Recorders, the author and her husband Andy, subsequently had one to MV light in Chicksands Wood 22.iii.2011 and then a second individual in the same place on 15.iv.2011.
- 2165 *Hecatera dysodea* ([D.& S.]) Small Ranunculus. 16.viii.2005 Upper Sundon (C. W. Plant) as larvae on Prickly Lettuce *Lactuca serriola*. Following on from this there were a handful of records of both adults and larvae until 2010 when there appeared to be a population explosion. There were 35 records of the species in 2010 (23 records of adults, maximum of three reported, and 12 larval records, maximum of 31 reported) bringing the total number of records to 45 in the database. There have been further reports of the species in the county in 2011.

- 2183 *Orthosia miniosa* ([D.& S.]) Blossom Underwing. 28.iii.2011 Bromham (P. Almond). A second individual was recorded later in the year at Turvey Abbey (Br. J. Mayhead).
- 2195 *Mythimna vitellina* (Hübner) Delicate. 4.ix.2006 Eaton Ford (A. A. Lawrence). Also recorded in VC30 23.ix.2006 Great Barford (M. Corley) and 26.vii.2007 Haynes (S. Knight)
- 2204 *Mythimna obsoleta* (Hb.) Obscure Wainscot. 13.vi.2009 Chalton STW (G. Buss) and also three at the same site 20.vi.2009 (A. M. & M. G. Banthorpe). The species was also recorded in 2010 and 2011 at Dunstable STW. Since the sites had not been trapped before, it is most likely that the species has been present for some time.
- 2223 *Calophasia lunula* (Hufn.) Toadflax Brocade. 13.v.2010 Bromham (P. Almond) and also 16.vi.2010 Luton (A. Grimsey) and 9.viii.2010 Arlesey (D. Trim). There have been further records of the species in 2011.
- 2260 *Conistra rubiginea* ([D.& S.]) Dotted Chestnut. 15.iv.2007 Potton (A. Darrington). The species has been recorded in 2008 and 2010 as singletons but there have now been four recorded this year so far.
- 2292 *Cryphia algae* ([Fabr.]) Tree-lichen Beauty. 11.viii.2007 Barton Hills NR (A. M. & M. G. Banthorpe) and Upper Caldecote (M. Burgess). It is surprising that there have been no other records in the intervening years.
- 2311 *Ipimorpha retusa* (L.) Double Kidney. 4.viii.2008 Eaton Ford (A. A. Lawrence).
- 2347 *Chortodes extrema* (Hübner) Concolorous. vi.2005 near Turvey (H. A. Smith) and it has also been recorded as singletons in 2009 and 2010 at Turvey Abbey. These are believed to be wanderers from the nearby population in Northamptonshire.
- 2387a *Platyperigea kadenii* (Freyer) Clancy's Rustic. 8.x.2010 Bromham (P. Almond).
- 2428 *Chrysodeixis chalcites* (Esper) Golden Twin-spot. 14.xii.2001 indoors at The Lodge (RSPB Sandy) (D. Dawson). Also one 21.x.2005 Eaton Ford (A. A. Lawrence)
- 2432 *Trichoplusia ni* (Hübner) Ni Moth. 17.ix.2006 Potton (J. Lindsell)
- 2455b *Pandesma robusta* (Walker). ii.2002 Bedford (M. Bryer) found dead in a bunch of South African grapes bought from a shop in Bedford.
- 2475 *Parascotia fuliginaria* (L.) Waved Black. 26.vii.2000 Cockayne Hatley RIS trap (I. P. Woiwod). The species has also been recorded in Yelden in 2003, Eaton Ford in 2004, Studham 2008 and Eaton Bray RIS II trap in 2010.

### Subsequent verified records of species mentioned in *The Butterflies and Moths of Bedfordshire*

#### Geometridae

- 1689 *Scopula marginepunctata* (Goeze) Mullein Wave. There is an unverified record listed without comment in *The Victoria History of the County of Bedford* (Arnold *et al* 1997). One adult has subsequently been confirmed from the Cockayne Hatley RIS trap (I. P. Woiwod) 31.viii.2005.

#### Arctiidae

- 2068 *Callimorpha dominula* (L.) Scarlet Tiger. There were no definite records of this species in Bedfordshire pre 1996 as Kershaw's records from 1953 (Aspley Heath) and 1954 (King's Wood Heath & Reach) are considered unverified (Arnold *et al* 1997). There have been five subsequent records of this species in VC30 – 2.vii.2001 singleton light trapped Aspley Guise (J. B. Barnwell); 31.vii.2009 singleton daytime observation Luton (J. Fisher); 4.vii.2010 singleton daytime observation Chicksands Wood (D. H. Ball) (This is an unverified record. It was a brief sighting, however, the observer was familiar with species but he could not confirm identification); 4.vii.2010

daytime observation of six Marston Moretaine (M. & C. Hawkes) and also seen here in 2011. The origin of all of these is a matter of some speculation and is not discussed here and it is intended that this will be the subject of another note in this Journal.

### Noctuidae

- 2131 *Xestia rhomboidea* (Esper) Square-spotted Clay. The S. H. Kershaw record from 30.vi.1946 is regarded as doubtful (Arnold 1997; Arnold *et al* 1997) and the species occurrence in Bedfordshire (Heath & Emmet 1979) was considered by J. Heath 'not an acceptable record' (pers. comm. to V. W. Arnold, Arnold *et al* 1997), hence these are not in the VC30 database of accepted records. The first confirmed county record is therefore 29.viii.2000 Pegsdon Hills (V. & B. Judd). Since 2001 it has occurred regularly in the Cockayne Hatley RIS trap and at other sites in the county and by the end of 2010 there were just under 60 records.
- 2236 *Lithophane hepatica* (Clerck) Pale Pinion. This was shown as occurring in Bedfordshire (Heath & Emmet 1983) but J. Heath considered this record erroneous (pers. comm. to V. W. Arnold, Arnold *et al* 1997). The first accepted record is 28.iii.2003 The Lodge (RSPB Sandy) (M. Gurney). It has since been recorded every year in VC30 between 2004 – 2010 in increasing numbers and three have already been recorded in 2011.
- 2229 *Dasypolia templi* (Thunb.) Brindled Ochre. V. W. Arnold records one trapped 7.xii.1990 at The Lodge (RSPB Sandy) (M. Kemp) (Arnold *et al* 1997) as being the only county record. In 2007 Arnold came across a reference in *The Aurelian's Fireside Companion* (Salmon & Edwards, 2005) of an article entitled 'The Attractiveness of Electric Light' by W. Gifford Nash (published in 'The Entomologist' in April 1922) that mentions two species - *Notodonta tritophus* (Three-humped Prominent) and *Dasypolia templi* (Brindled Ochre) – as being caught by his friend W. B. Brocklehurst around the electric lights of Bedford some ten or more years earlier (pers. comm. to A. M. & M. G. Banthorpe 2007). It is known that *N. tritophus* was caught on 13th May 1907 so it can be assumed that the *D. templi* was caught around the same time in the early 20th century (Banthorpe 2007). This then pre-dates that of the Sandy record mentioned above and becomes the first VC30 record of this species.
- 2273 *Archana sparganii* (Esper) Webb's Wainscot. There is a record from S. H. Kershaw in his notebooks from 'by our pond' 3.viii.1960 Aspley Heath. It has remained unverified as no specimen exists. It could either have been mis-identified or been imported with pond-plants from elsewhere (Arnold 1997; Arnold *et al* 1997). I know of no further records until one was recorded 8.viii.2003 at Turvey Abbey (Br. J. Mayhead). The 2003 Turvey record is the first verified VC30 record. The species was subsequently recorded in 2004, 2006, and yearly from 2007-2010 and has turned up every year from 2007-2010 in the author's garden in Lower Stondon with two separate individuals in 2008. By the end of 2010 there were 24 records in the VC30 database.

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### Hunting for *Hemaris tityus* (L.) (Lep.: Sphingidae) larvae

On 23 July 2011 I joined a party of Butterfly Conservation's Highland Branch members to search for caterpillars of Narrow-bordered Bee Hawk-moth *Hemaris tityus* in the rides of a Scots Pine *Pinus sylvestris* plantation on the Black Isle in East Ross VC 106. The moth was discovered to be present in the wood by Margaret Currie and Andy Scott in May 2010, the first sighting being of 14 adults nectaring along a 170 metre stretch of one of the rides. This contained abundant Bird's-foot Trefoil *Lotus corniculatus* but very little of the moth's foodplant, Devil's-bit Scabious *Succisa pratensis*. Clearly the breeding area must be elsewhere. Our task was to find it.

The nearest likely place was a ride that ran parallel to the first, 220 metres away as the crow flies, but a minimum of 400 metres if moths travelled via a connecting ride. Like the nectaring ride, it ran ESE to WSW, thus was in sunshine for most of the day. Scabious grew abundantly along its edges, but there were few spring nectar sources and adults were seldom seen there. Was it the breeding area? Could the moths really be so mobile, using different areas of the wood for nectaring and egg-laying? The proof would be to locate larvae. We spread out and diligently set to work, aware that this is reputed to be a very difficult species to find.

Encouragement was not long in coming. The first caterpillar was soon discovered. It was passed around – knowing what to look for might help the search image. It did: by the end of the session, no fewer than 25 had been found, with all participants contributing to the total. The precise location of every caterpillar was marked with a flag and later logged by GPS. They were fairly evenly distributed on both sides of the ride for a distance of about 160 metres. Size was quite variable, from presumed 2nd instar only 10mm long to penultimate



instar at around 30mm in length. Mission accomplished! And the Red Kites *Milvus milvus* that entertained us were a bonus.

This event was remarkable for several reasons. First, that Highland Branch was able to muster at short notice eight people who were willing to spend several hours on hands and knees searching for the caterpillar of a moth, albeit a spectacular one. It reflects the huge upsurge of interest in this group in recent years, stimulated by the Moths Count project and by other dedicated Butterfly Conservation staff. Secondly, that the breeding site information had been requested by the Forestry Commission themselves, to help them manage the rides for the benefit of the moth, which they were perfectly willing to do. When, and how often, should they mow the edges to keep scrub and coarse vegetation at bay? I doubt whether such concern and cooperation would have existed even a few years ago. Finally, this episode demonstrates how well Narrow-bordered Bee Hawk-moth is doing in the Highlands at present, particularly along the length of the Great Glen, as shown by the *Provisional Atlas of the UK's Larger Moths* (Hill, L, Randle, Z., Fox, R. & Parsons, M., 2010. Butterfly Conservation). Its long, unexplained decline from about 1950 onwards (Heath, J. & Emmet, A. M., 1979. *The Moths and Butterflies of Great Britain and Ireland*. Curwen Books) has been more than reversed, with the first signs of recovery noticed in the Highlands during the mid 1990s.

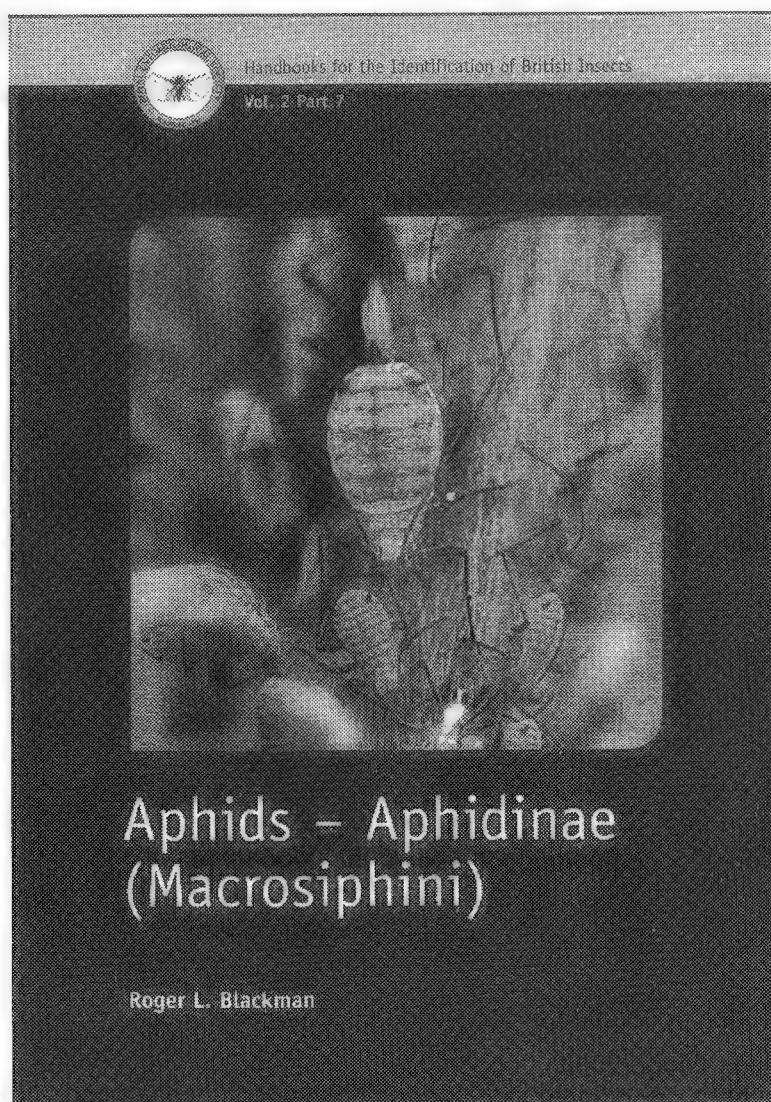
All in all, things are looking good for moths and their supporters in Scotland. Now if only the weather would improve. — ROY LEVERTON, Whitewells, Ordiquhill, Cornhill, Banffshire AB45 2HS.

## BOOK REVIEW

**Aphids – Aphidinae (Macrosiphini), Handbooks for the Identification of British Insects, Volume 2 Part 7** by Roger L. Blackman. 414pp., including monochrome photographs, both within the text and on an accompanying computer disc, 175 x 245mm, softbound, published by the Field Studies Council for the Royal Entomological Society, 2010. ISBN 978 0 901546 91 3. Price £40.

This is the third Royal Entomological Society Handbook to address the British aphids (Aphididae), the two previous works being by Stroyan (1977 and 1984), and encompasses nearly half of the 620 species on the British list. The three Handbooks combined cover 80% of the British Aphididae.

In a word, this text is comprehensive. There are separate keys to the genera and species for winged and wingless viviparous (parthenogenetic) females, and for winged males, together with descriptions and details of the biology for each of the 305 species and subspecies comprising the Macrosiphini. The text is supported by well over one thousand monochrome photomicrographs of slide mounted specimens, distributed across 514 figures. About two thousand additional photomicrographs are included on the accompanying computer disc. Even if you don't have a specimen to identify, an enjoyable time can be had dipping into the species accounts looking for interesting snippets about the lives of these fascinating animals. This book will be manna from heaven for specialists of the Aphididae, collecting together in



one place what is currently known of the identity and biology of the aphids of the Macrosiphini, and should be judged a triumph. However, the text makes the claim that it can also be used by non-specialists, and in this respect the Handbook is a little lacking.

In order for this book to be of any use by an entomologist bent on identifying an aphid specimen, it must first be ascertained whether the bug at hand is a member of the Macrosiphini. Here the problems begin for the novice. Unlike the keys for genera and species, which are lavishly illustrated, the subfamily key has no supporting figures. The various forms of the cauda, anal plate, siphunculi and secondary rhinaria, used extensively within the key, are not illustrated. At a more basic level, there is no explanation or illustration of how to discriminate between the different forms of an aphid – male and female, wingless adult and immature, viviparae and oviparae – which is rather

important given that each key is specific for a particular aphid form. None of this should pose a problem for an expert, but novices will need more help. These issues could be easily solved by either making reference to appropriate photomicrographs among the thousands available, or providing additional images where these are absent, with perhaps a bit more textual comment.

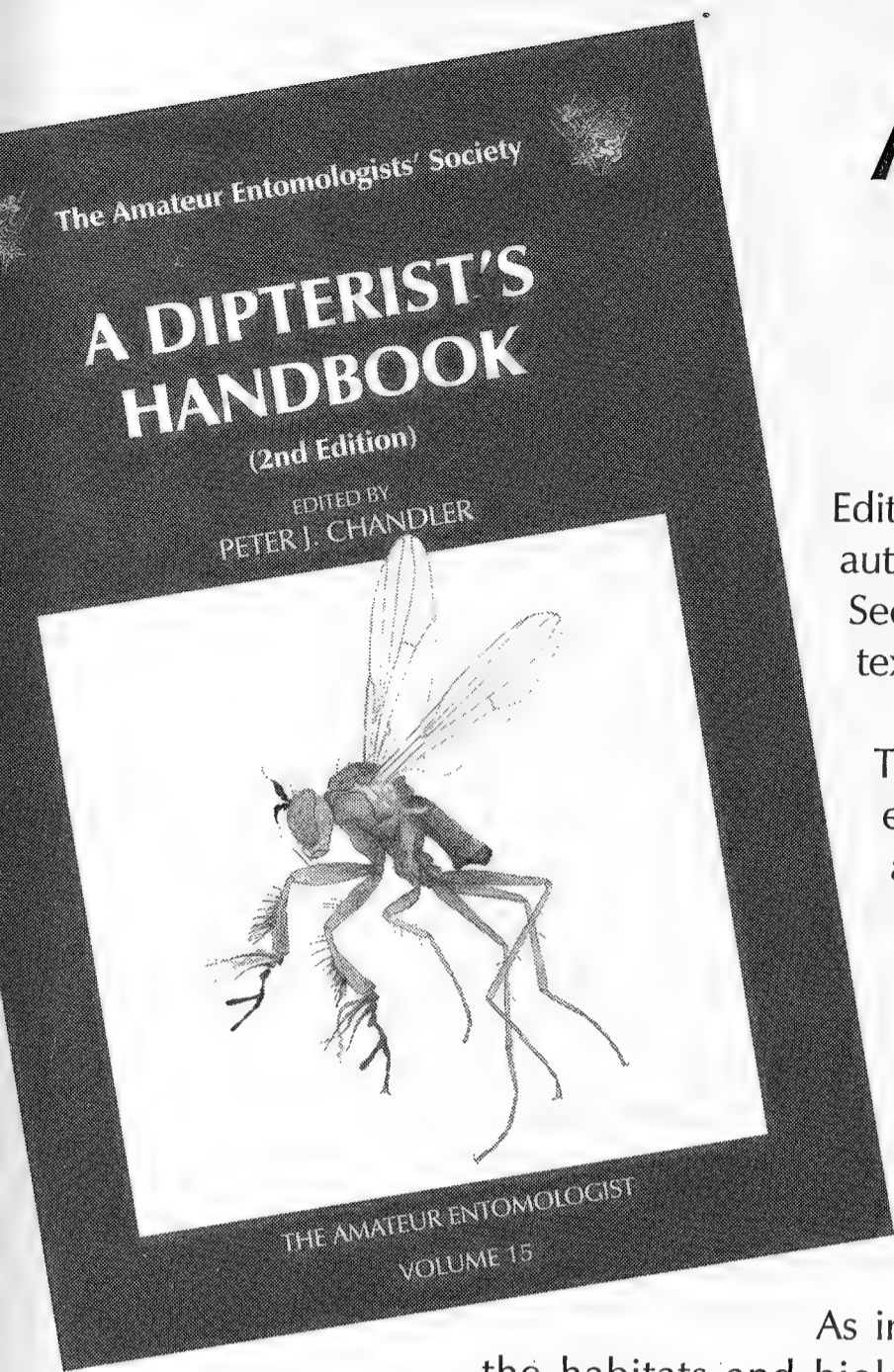
Then we come to the tribe key; a single couplet of fiendish difficulty by which one is to determine whether a member of the Aphidinae belongs to either the Aphidini (keyed in Stroyan, 1984) or the Macrosiphini (keyed in this book). Here the author, anticipating problems, has provided an alternative approach, listing a set of characters which are only found among the Macrosiphini and tabulating these with the possible genera. However, once again there is a lack of supporting figures. There is also a list of host plants of the Aphidinae, cross-referenced with species, which provides a very useful fast-track means of narrowing down the identity of an aphid – provided one knows it belongs to the Aphidinae. Here the more critical reader may ask why there are no colour photographs of live aphids (except for that on the front cover), which could be used to further shorten the list of possible species, and to provide confirmation of identity after working through the keys. There is plenty of room on the enclosed computer disc for such additional images.

The book closes with brief, but useful details of the collection, rearing and preservation of aphid specimens. This includes a simplified procedure for slide preparation, designed for those enthusiasts who do not have access to laboratory facilities. This puzzles me somewhat. From where is the person in the street supposed to find the various chemicals required by the procedure, such as potassium hydroxide and ethanol? In the latter case, methylated spirit and surgical spirit are available from high street chemists. Would these suffice? More information is required for this procedure to be useful.

In conclusion, this is a book written by a specialist for specialists, and is a major contribution to the study of the Aphididae. Attempts have been made by the author to open this field to non-specialists, but more work is needed if this objective is to be achieved.

Rob Ryan





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# THE ENTOMOLOGIST'S RECORD

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and Journal of Variation

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## MICROLEPIDOPTERA REVIEW OF 2010

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(m.young@abdn.ac.uk)**Abstract**

Noteworthy records of microlepidoptera collected during 2010 are summarised, including two species new to the British Isles and numerous new vice-county records.

**Introduction**

The year 2010 started in the middle of a seriously cold spell of winter weather that had started in December 2009 and was to last until late February, or even mid-March in the north. Overall, the winter was the coldest for over 30 years in many parts of Britain and the coldest on record for northern Scotland. Snowfall was frequent everywhere but the actual amount of precipitation was generally lower than average and sunshine levels were normal or even higher than usual in western Scotland and Ireland. March was generally of average temperature and rainfall but then April was distinctly mild and dry, allowing an unusually early spring for many animals and plants. The warm and dry weather was especially marked in eastern areas.

May reverted to average, whilst June was also unusually warm and dry, particularly in East Anglia and eastern England, but July was not especially warm and there was some very wet weather in northern and western Britain, but dry weather in the east. August was also very wet, including East Anglia, and was rather cool and so unhelpful for microlepidopterists.

Autumn started with slightly above average temperatures but became very cold in November and December, leading into another very cold winter for 2010/2011. The worst of the cold weather was in Scotland and central Wales, whereas the east of England was closer to average, and there was early snow in the north. In contrast to earlier in the year, northern and western areas were drier than average, but the east was rather damp. Overall, the promise of a fine spring in Britain was certainly not fulfilled in the summer and autumn, making for a generally disappointing field season.

Two species were recorded as new to Britain. *Barea asbolaea* (Meyrick) was first caught in Cornwall in 2004 but its true identity only recently recognised. It has been found each year since then, in some numbers, and so seems to be established in a localised area and its most likely origin seems to be as an adventive species brought in on horticultural plants. On the other hand, *Cydia indivisa* (Danilevsky) is considered to be a possible over-looked resident. It was found in Buckinghamshire, close to a likely foodplant, (on the Continent is it

known to feed on *Abies* spp.), and it is found widely in central and northern Europe and so may well have been present for a while. It is somewhat similar to other *Cydia* species and may have been passed over.

Most of the species recorded as new to the constituent countries in the British Isles are also likely to have been overlooked in the past, although two species in Wales may be part of a genuine spread. *Cosmopterix lienigiella* Lienig & Zeller seems to be extending its range from central southern England and *Prays oleae* (Bernard) has produced its third and fourth records, leading to the thought that as olives are planted more widely we may be seeing an associated fauna developing. Another newcomer to Wales was *Tuta absoluta* (Meyrick), which is imported with tomatoes and has now been found in five vice-counties. It is a potential pest, if our climate is found to be suitable.

The value of focussed field-work was again illustrated by Bob Heckford, who followed up his previous re-discovery of *Plutella haasi* Staudinger by successfully searching for larvae. He found many larvae on *Arabadopsis petraea* (Linnaeus) on mountains in both Mull and Skye, greatly extending its known range and also consolidating the understanding of its life-cycle. Both *Xenolechia aethiops* (Humphreys & Westwood) and *Phtheochroa schreibersiana* (Frölich) were re-discovered after years of absence, in the case of *P. schreibersiana* it had not been seen in Britain since 1923, with few records even before that. Two pyralids also deserve some notice. *Sclerocona acutellus* (Eversmann) has previously been restricted to stray occurrences, possibly imported with thatch from eastern Europe, but in 2010 sufficient were seen in one part of the Isle of Wight to suggest local establishment. It is associated with *Phragmites* and so we have much possible habitat, if the climate proves to be suitable and it would be a welcome colonist. *Diaphania perspectalis* (Walker) is a different matter. It is a potential pest on box, and is spreading westwards across Europe and has now been found in six vice-counties in central southern England.

The recent very pleasing increase in recording of microlepidoptera has continued, albeit with a continuation of the problem of keeping track of all the new records, as was discussed here last year, with many recorders placing their observations on scattered websites and specialist internet discussion groups. In Scotland the species distribution maps which are used to keep track of the VC records published here have been digitised by a group of volunteers and Mark Cubitt has very kindly mapped the records and placed them on the East Scotland website of Butterfly Conservation, so they are available to anyone with internet access. To do the same for England alone would be an order of magnitude harder and so it remains difficult for recorders to have a clear idea of the full distribution of any given species. This problem has prompted discussion amongst recorders about possible ways forward, with three related issues also needing attention. As well as trying to decide how to make the maps available, there is the problem of collating all the new records efficiently and fully; whether to work towards an on-



line record input system; and most importantly, how to assess the reliability of records. The experience gained by Butterfly Conservation during their butterfly and macromoth recording schemes is invaluable and their staff are fully involved in these discussions.

The aspect of this that may be most intractable is how to ensure accurate identification. Even experienced microlepidopterists find many specimens each year that require detailed examination, dissection, or reference to other experts and the various web-based discussion groups host dozens of photos for help with identification. Of course it is often impossible to identify a specimen even from an excellent photo of a fresh moth. Many moths are not fresh and many photos are not excellent, so compounding the difficulty, but this often does not deter the participants in these discussion groups and clearly wrong diagnoses are frequently given. It is hoped that many of these are noticed by more experienced microlepidopterists but unfortunately some at least escape correction. All of us do make mistakes, either through ignorance or carelessness, but if the specimen has been retained then doubtful records can be checked. However, most new recorders do not keep specimens and so the chance to re-identify is lost and who is then to say whether a doubtful record is sustained? Some recorders have deliberately decided that they do not wish to kill moths, which is entirely understandable, but they must also accept that this means that some of their captures will never be identified securely. Is there a system which can be adopted that will improve the present rather haphazard approach to identification? This is a very tricky problem, with no obvious answer and in the current circumstances we can only be grateful to those who do give their time to responding to the many requests for help.

Please may we now ask for many more records from 2011, arranged in our standard format and with a national grid reference, and the easiest way for us to receive these is as a **WORD** file to **JRL**. **Please do not submit records in spreadsheets**, as these then require extensive editing, adding enormously to the task of preparing the review. Thank you to so many enthusiasts, whose records make this such an extensive and important contribution, and especially to Ian Thirlwell for help with the tedious task of checking and collating the new records.

The 2010 records have come from the following recorders, each indicated in the text by his or her initials. Other recorders are named in full. D.J.L. Agassiz, M.V. Albertini, N. Asher, A.M. Banthorpe, H.M. Banthorpe, H.M. Bantock, T.J. Barker, I. Barton, H.E. Beaumont, S.D. Beavan, D.T. Biggs, K.P. Bland, A.G. Blunt, K.G.M. Bond, T. Bryant, D. Budworth, P.J. Clarke, V.F. Clarke, J. Clifton, P.D.M. Costen, M.J. Dale, D.W.W. Davidson, B. Dickerson, S. Dunlop, R.D. Edmunds, B. Elliott, C.H. Fletcher, T.H. Freed, S. Gauld, R.G. Gaunt, A.N. Graham, J.E. Graham, M.J. Gray, P.R. Hall, M.C. Harvey, R.J. Heckford, B.P. Henwood, S.H. Hind, R. Homan, P. King, S.A. Knill-Jones, J.R. Langmaid, K. Leonard, A.D. Lewis, N.R. Lowe, J.A. McGill, D.V. Manning, K.A. Naylor, E. O'Donnell, R.M. Palmer, S.M. Palmer, M.S. Parsons, T. & D. Pendleton, C.W. Plant, J. Porter, C.R.

Pratt, S.A. Rolls, E. Rolston, A.N.B. Simpson, D.J. Slade, C. Smith, E.G. Smith, M.H. Smith, P.H. Sterling, N.J. Stone, T.J. Tams, G.M. Tordoff, L.A.C. Truscott, M.J. Wall, P.E. Watts, J.R. Wheeler, P.R. Williams, J. Worth, M.R. Young.

New vice-county records are shown with the VC number both underlined and in **bold** type. Journals are abbreviated as follows: *Ent. Rec.* for *Entomologist's Record and Journal of Variation*; *Ent. Gaz.* for *Entomologists' Gazette*; *BJENH* for *British Journal of Entomology and Natural History*; and *Atropos* is named in full. RIS refers to the Rothamsted Insect Survey and VCH to Victoria County History. SEM refers to Scottish Entomologists Meeting.

## SYSTEMATIC LIST

### MICROPTERIGIDAE

- 3 *Micropterix aureatella* (Scop.) — Lochdon, Mull NM723328 (**103**) 1.vi.2010 — A. Kirkham *per* MRY  
 4 *M. aruncella* (Scop.) — Stamullen O182664 (**H22**) 30.v.2010 — EO'D

### ERIOCRANIIDAE

- 7 *Eriocrania chrysolepidella* Zell. — Chicksands Wood TL1040 (**30**) tenanted mines on *Carpinus betulus* 14.v.2010 — AMB & MGB *per* DVM  
 8 *E. unimaculella* (Zett.) — Dersingham Bog NNR TF6629 (28) tenanted mine on *Betula* sp. 18.v.2010, first VC record for over 100 years — R.D. Edmunds *per* JRW; Curraghbinny W792620 (**H4**) 25.iv.2010 — KGMB  
 9 *E. sparrmannella* (Bosc) — Shouldham Warren TF6711 (28) tenanted mine on *Betula* sp. 17.vi.2010, first VC record for over 100 years — R.D. Edmunds *per* JRW; Llangynidr SO151201 (**42**) mines with dead larvae on *Betula jacquemontii* 3.viii.2010 — JRL  
 10 *E. salopiella* (Staint.) — Lake Vyrnwy SJ025185 (**47**) mine on *Betula* sp. 11.vi.2010 — AMB *per* PRW; Pensychnant SH751770 (**49**) tenanted mine on *Betula* 6.vi.2010 — AMB & MGB; Waldridge Fell NZ2549 (66) tenanted mines on *Betula pendula* 25.v.2009, first VC record since 1877 — TJB; Capanahanagh Wood R708582 (**H8**) 17.iv.2010, genitalia det. — KGMB  
 11 *E. cicatricella* (Zett.) — nr Llanbedr SH604261 (**48**) tenanted mines on *Betula* sp. 18.v.2010 — ANG & JEG  
 12 *E. sangii* (Wood) — Canrawer M117413 (**H16**) 11.iv.2010, genitalia det. — KGMB  
 13 *E. semipurpurella* (Steph.) — Castleblagh Wood W710982 (**H5**) 17.iv.2010, male genitalia det. — KGMB

### NEPTICULIDAE

- 33 *B. auriciliella* (Joann.) — Knaphill SU9658 (**17**), adult male to light 27.vi.2010, genitalia det. GAC — A.J. Halstead *per* JP  
 21 *Ectoedemia sericopeza* (Zell.) — Lower Earley SU7670 (**22**) 6.vii.2010 — I.R. Sims *per* MCH; Worcester City SO853548 (**37**) vacated mine in samara of *Acer platanoides* 2.ix.2010 — ANBS; Burntwood SK068079 (**39**) 8.x.2010, genitalia det. MJD — R. Sharp *per* MJD  
 24 *E. turbidella* (Zell.) — Burnham Beeches SU9585 (**24**) mines on *Populus x canescens* 4.xi.2010 — MVA  
 29 *E. atricollis* (Staint.) — Invertrossachs Estate NN558047 (**87**) mine 26.viii.2010 — A. Huff *per* MRY

- 31 *E. rubivora* (Wocke) — Thowthorpe SE6267 (**62**) vacated mines on *Rubus* sp. 18.ix.2010 — CHF
- 35 *E. minimella* (Zett.) — Trerhos Common SM92272695 (**45**) vacated mine on *Corylus* 16.x.2010, det ADL, conf. JRL — R. Taylor *per* ADL; Masham SE2280 (**65**) vacated mines on *Betula* sp. 12.ix.2010 — CHF
- 36 *E. quinquella* (Bed.) — Swinderby SK866615 (**53**) 9.vi.2009 — J. Rowley *per* MJG; Kirkby Moor TF2261 (**54**) tenanted mines on *Quercus* sp. 31.x.2010 — MJG
- 36a *E. heringella* (Mariani) — Studland Village SZ0382 (**9**) 16.iv.2010 two vacated mines on *Quercus ilex* — PHS; Hinchingsbrooke TL228716 (**31**) tenanted mines on *Quercus ilex* 21.iii.2010 — BD
- 39 *E. heringi* (Toll) — St John's Wood M996563 (**H25**) tenanted mines on *Quercus robur* 12.x.2010 — KGMB, **New to Ireland**
- 41 *E. atrifrontella* (Staint.) — Shabbington Wood SP6210 (**24**) 16.viii.2010, male genitalia det. PRH — D. Wilton *per* MVA
- 41a *E. amani* Svensson — Upper Alders TL1138 (**30**) at mv light 6.viii.2010, genitalia det. DVM — AMB & MGB *per* DVM, *Ent. Rec.* **121**: 207-208
- 42 *E. septembrella* (Staint.) — Ardnadoman East M583177 (**H15**) mines on *Hypericum* sp. 4.viii.2010 — KGMB; Eden G937494 (**H29**) mines common on *Hypericum* sp. 25.ix.2010 — KGMB
- 43 *E. weaveri* (Staint.) — Blorenges SO2510 (**35**) mines on *Vaccinium vitis-idaea* 26.v.2010 — JRL; Barden Moor SE0456 (**64**) tenanted mines on *Vaccinium vitis-idaea* 5.iii.2010 — D. Parkinson *per* CHF; Colsterdale SE1381 (**65**) tenanted mines on *Vaccinium vitis-idaea* 11.iii.2010 — CHF
- 49 *Trifurcula eurema* (Tutt) — near Creg Mhòr, Mull NM4736 (**103**) 15.ix.2010 two larvae in leaves of *Lotus corniculatus* — SDB & RJH
- 58 *Stigmella ulmariae* (Wocke) — Spylaw Cottage NT2152 (**78**) vacated mine on *Filipendula ulmaria* 8.viii.2010 — KPB
- 63 *S. lemniscella* (Zell.) — St John's Wood M998561 (**H25**) vacated mines on *Ulmus glabra* 24.ix.2010 — KGMB
- 64 *S. continuella* (Staint.) — Tir Stent, Nr. Dolgellau SH757165 (**48**) tenanted mines on *Betula pubescens* 12.ix.2010 — ANG & JEG
- 67 *S. plagicolella* (Staint.) — Ragpath Heath NR NZ1444 (**66**) vacated mines on *Prunus spinosa* 6.ix.2009, first VC record since at least 1887 — TJB
- 74 *S. assimilella* (Zell.) — Sandal Beat Wood SE6103 (**63**) vacated mines on *Populus tremula* 26.x.2010 — S.R. Sowden *per* HEB
- 78 *S. incognitella* (H.- S.) — Sharnbrook SP9599 (**30**) vacated mine on *Malus* cultivar 18.viii.2010 — DVM
- 79 *S. perpygmaeella* (Doubld.) — Llanstephan Bridleway SO116419 (**43**) vacated mine on *Crataegus monogyna* 29.viii.2010, first confirmed county record — PJC & VFC
- 88 *S. samiatella* (Zell.) — Duncan Wood, Budby SK6171 (**56**) vacated mines on *Castanea sativa* 27.viii.2010 — SHH
- 89 *S. basiguttella* (Hein.) — Lower Woods ST7386 (**34**) vacated mine on *Quercus* sp. 21.viii.2010 — G.H.J. Meredith *per* RGG
- 90 *S. tiliae* (Frey) — Lower Stondon TL1535 (**30**) vacated mines on *Tilia x vulgaris* 23.viii.2010 — MGB *per* DVM; Riccal Dale SE6384 (**62**) vacated mines on *Tilia* sp. 14.x.2010 — CHF
- 93 *S. centifoliella* (Zell.) — Finningley Big Wood SK6598 (**63**) vacated mines on *Rosa* sp. 10.xi.2010, conf. HEB & CHF — S.R. Sowden *per* HEB

- 95 *S. viscerella* (Staint.) — Chester Zoo SJ4170 (58) tenanted mines on *Ulmus procera* 6.ix.2010, first VC record since c.1887 — SHH; Blaxton SE6701 (63) vacated mines on *Ulmus glabra* 6.xi.2010 — S.R. Sowden per HEB
- 98 *S. catharticella* (Staint.) — Auckley Common SE6602 (63) vacated mines on *Rhamnus cathartica* 21.xi.2010 — S.R. Sowden per HEB
- 100 *S. oxyacanthella* (Staint.) — St John's Wood M998560 (H25) tenanted mine on *Prunus domestica* 24.ix.2010, previously unrecorded foodplant — KGMB
- 102 *S. aceris* (Frey) — Tye Green TL542239 (19) mine on *Acer campestre* 21.x.2010 — AMB
- 104 *S. magdalenae* (Klim.) — Dare Valley Country Park, Aberdare (41) vacated mines on *Sorbus aucuparia* 10.x.2009 — DJS; Sherwood Forest Center Parcs SK6363 (56) vacated mines on *Sorbus aucuparia* 28.viii.2010 — SHH; Padley Gorge SK2579 (57) vacated mines on *Sorbus aucuparia* 19.viii.2010 — SHH; Hurstwood SD8830 (59) vacated mines on *Sorbus aucuparia* 1.ix.2010 — SHH & K. McCabe per SMP
- 113 *S. sakhalinella* Pupl. — Dersingham TF686298 (28) vacated mine on *Betula pendula* 21.x.2010 — BE & JRL; Gamlingay Wood TL242533 (29) vacated mine on *Betula* sp. 22.viii.2010 — BD; Wash Dale Wood, Downs Banks SJ9036 (39) vacated mines on *Betula* sp. 14.x.2010 — D. Grundy & SHH; Bamford SK2082 (57) vacated mines on *Betula* sp. 21.ix.2010 — SHH & K. McCabe; Roulton Scar SE5181 (62) vacated mines on *Betula* sp. 5.x.2010 — CHF
- 114 *S. glutinosae* (Staint.) — Howden Reservoir SK1592 (57) tenanted mines on *Alnus glutinosa* 25.viii.2010 — SHH
- 118 *Enteucha acetosae* (Staint.) — Millbrook Common SX175995 (2) tenanted mines on *Rumex acetosella* 2.viii.2010 — JAMcG; Ampthill Park TL0238 (30) vacated mines on *Rumex acetosella* 29.viii.2010 — AMB & MGB per DVM

## OPOSTEGIDAE

- 119 *Opostega salaciella* (Treits.) — Crossaig NR831515 (101) 25.vi.2010 — SEM

## TISCHERIIDAE

- 124 *Tischeria dodonaea* Staint. — Knightshayes Court SS961154 (4) tenanted mine on *Quercus pubescens* 28.x.2010, moth bred — SDB
- 127 *Emmetia angusticollis* (Dup.) — Llanymynech Rocks SJ2621 (47) 4.vii.2010 tenanted mines on *Rosa* sp., moths bred — SDB & RJH

## INCURVARIIDAE

- 129 *Incurvaria pectinea* Haw. — Gamlingay Wood TL242533 (29) vacated mines and cut-outs on *Betula* sp. 22.viii.2010 — BD; Maulden Wood TL0638 (30) tenanted mines on *Corylus avellana* 30.v.2010 — AMB & MGB per DVM
- 130 *I. masculella* ([D. & S.]) — Minishant NS3314 (75) 6.vi.2010 — D. Smith per MRY; St John's Wood M996563 (H25) 20.v.2010 — KGMB
- 131 *I. oehlmanniella* (Hübner) — Stockgrove Country Park SP9129 (30) 30.v.2010 — AMB & MGB per DVM

## PRODOXIDAE

- 135 *Lampronia luzella* (Hübner) — Carrickavrantry S546024 (H6) 14.vi.2010 — TB
- 138 *L. fuscata* (Tengst.) — Brampton Wood, TL182703 (31) gall on *Betula* sp. 23.iii.2010, moth bred — I. McLean per BD; Cleeve Hill SP0025 (33) gall on *Betula*



sp. 6.iv.2010, adult emerged 28.iv.2010 — R. Homan *per* RGG; Kenilworth SP286711 (38) 23.v.2010, female genitalia det. — M. Kennard *per* NJS

## ADELIDAE

- 145 *Nemophora minimella* ([D. & S.]) — Staple Fitzpaine ST2416 (5) 25.vii.2010 — JAMcG; Llangasty SO1226 (42) 25.vii.2010 — NRL  
 150 *Adela reaumurella* (Linn.) — Cappanahanagh Wood R708582 (H8) 17.iv.2010 — KGMB

## HELIOZELIDAE

- 156 *Heliozela resplendella* (Staint.) — Foulshiels Bing NS9763 (84) mines on *Alnus glutinosa* 15.viii.2010 — KPB  
 158 *Antispila metallella* ([D. & S.]) — Near Skellingthorpe SK903726 (53) vacated mine on *Cornus sanguinea* 1.x.2009 — MJG

## PSYCHIDAE

- 175 *Narycia duplicella* (Goeze) — Dersingham Common TF687295 (28) larval case 19.iii.2010, first VC record for over 100 years — R.E. Jones *per* JRW  
 179 *Dahlica lichenella* (Linn.) Dingwall NH549593 (106) 19.x.2010 — M. Macdonald & A. Goddard *per* MRY  
 180 *Diplodoma laichartingella* (Goeze) — Scotland Wood SP7978 (32) larval case 21.vi.2010 — J. Skinner *per* DVM  
 184 *Luffia lapidella* (Goeze) — Dancersend SP9009 (24) 29.vi.2009, male genitalia det. — PRH *per* MVA

## TINEIDAE

- 199 *Psychoides verhuella* Bru. — Greenclough Farm, Strines SJ976868 (57) larvae on *Phyllitis scolopendrium* 15.iii.2010, first VC record since *c.*1892 — SHH  
 200 *P. filicivora* (Meyr.) — Cromer TG227409 (27) 28.ix.2010, genitalia det. JC — R. Lee *per* JRW; Little Stretton SO449 (40) one larva plus feeding signs on leaves of *Polypodium vulgare* 10.iii.2010 — R. Homan *per* AGB; Strines SJ979866 (57) larvae on *Phyllitis scolopendrium* 15.iii.2010 — SHH  
 206 *Stenoptinea cyaneimarmorella* (Mill.) — Roehampton TQ2273 (17) to light 7.vii.2010, genitalia det. GAC — D.G. Carr *per* JP  
 211 *Haplotinea ditella* (P. & M.) — Richmond Park TQ1971 (17) 24.vi.2010, genitalia det. — THF  
 215 *Nemapogon granella* (Linn.) — Earith TL390751 (31) 20.v.2010, genitalia det. BD — D. Griffiths *per* BD; Kirk Smeaton SE5216 (63) emerged x.2010 from peanuts (origin unknown) purchased as bird food, genitalia det. HEB — D. Williamson *per* HEB  
 217 *N. wolfiella* Karsh. & Niels. — Potteric Carr SE5900 (63) 9.viii.2010, genitalia det. — R. I. Heppenstall *per* HEB  
 218 *N. variatella* (Clem.) — Filby TG471135 (27) 4.vi.2010 — D. Hipperson *per* JRW  
 219 *N. ruricolella* (Staint.) — Orton Waterville TL157957 (31) 23.vi.2010 — J. Newman *per* BD  
 228 *Monopis weaverella* (Scott) — Rossal Cottage NC691037 (107) 15.vi.2010 — K. McCabe *per* MRY  
 230 *M. crocicapitella* (Clem.) — Birmingham-Sparkbrook SP081845 (37) 16.viii.2010, genitalia det. JC — D. Grundy *per* ANBS; Colwyn Bay SH8378 (50) in RIS trap 8.vi.2010, genitalia det. — RMP

- 238 *Niditinea striolella* (Mats.) — Rudston TA0967 (**61**) 9.vii.2010, genitalia det. HEB — A.S. Ezard *per* HEB
- 240 *Tinea pellionella* Linn. — Glasbury SO180390 (**43**) 11.vii.2010, genitalia det. — PJC & VFC; Lecarrow M998549 (**H25**) 19.v.2010, genitalia det. — KGMB
- 243 *T. dubiella* Staint. — Earith TL390751 (**31**) 20.viii.2010, genitalia det. BD — D. Griffiths *per* BD; Easington TA3918 (**61**) indoors 29 & 30.vi.2010, genitalia det. HEB — B. R. Spence *per* HEB
- 245 *T. pallescentella* Staint. — Hill of Rattar ND244733 (**109**) 7.iv.2010 — N. Money *per* MRY
- 247 *T. trinotella* Thunb. — Grantown on Spey NJ031282 (**95**) 20.vi.2010 — M. Taylor *per* MRY; Gormonston beach O182664 (**H22**) 2.vi.2010 — EO'D

## BUCCULATRICIDAE

- 266 *Bucculatrix nigricomella* Zell. — Freshwater SZ332868 (**10**) 15.viii.2010, det. MJW — D. Cooke *per* SAK-J
- 267 *B. maritima* Staint. — Tramore saltmarsh S602009 (**H6**) vacated mine on *Aster tripolium* 3.ix.2010 — TB
- 271 *B. albedinella* Zell. — Downham Market TF5902 (28) vacated mine on *Ulmus* sp. 23.vii.201, first VC record or over 100 years — R. D. Edmunds *per* JRW; Llangasty SO1226 (**42**) vacated mine on *Ulmus procera* 5.viii.2010 — NRL & JRL; Branton SE5301 (**63**) vacated mine on *Ulmus minor* 20.xi.2010 — S.R. Sowden *per* HEB
- 272 *B. cidarella* Zell. — Lower Alders TL1239 (**30**) mines and larvae on *Alnus glutinosa* 15.ix.2010 — AMB & MGB *per* DVM; Sane Copse SP8554 (**32**) mines and larvae on *Alnus glutinosa* 14.x.2010 — DVM; Sherwood Forest Center Parcs SK6363 (**56**) vacated mines on *Alnus glutinosa* 28.viii.2010 — SHH; Masham SE2280 (**65**) vacated mine on *Alnus glutinosa* 12.x.2010 — CHF; Whitrigg Bing NS9664 (**84**) vacated mines on *Alnus glutinosa* 15.viii.2010 — KPB; St John's Wood M995563 (**H25**) vacated mine on *Myrica gale* 24.ix.2010 — KGMB
- 273 *B. thoracella* (Thunb.) — Sherwood Forest Center Parcs SK6364 (**56**) vacated mines on *Tilia* sp. 29.viii.2010 — SHH
- 276 *B. demaryella* (Dup.) — Rowney Warren TL1240 (**30**) vacated mines on *Betula pendula* 15.ix.2010 — AMB & MGB *per* DVM; Llanerchi, Elan Valley SN908639 (**43**) vacated mine on *Betula pubescens* 2.viii.2010 — PJC, VFC, NRL & JRL; Lartington NZ0117 (**65**) vacated mine on *Betula* sp. 4.xi.2010 — CHF

## ROESLERSTAMMIIDAE

- 447 *Roeslerstammia erxlebelli* (Fabr.) — Telford SJ697084 (**40**) 26.vii.2010, det. JRL from photograph — PEW; Fountains Abbey SE2868 (**64**) 20.viii.2010 — CHF, J.C. Warwick & D.M. Bowes

## GRACILLARIIDAE

- 283 *C. betulicola* (Her.) — Craignure, Mull NM723369 (**103**) 29.iv.2010 — A. Kirkham *per* MRY; Castleblagh Wood W708979 (**H5**) genitalia det. 16.v.2010 — KGMB
- 288 *C. stigmatella* (Fabr.) — Minishant NS3314 (**75**) 24.iv.2010 — D. Smith *per* MRY; Lennoxlove House NT5171 (**82**) vacated spinings on *Populus nigra* 25.vii.2010 — KPB; Bearsden NS550733 (**99**) 25.iv.2010 — R. Sutcliffe *per* MRY
- 289 *C. falconipennella* (Hübner) — Zeal Monachorum SS719039 (**4**) at light 10.iv.2010, genitalia det. RJH — SDB
- 296 *Calybites phasianipennella* (Hübner) — Commins Coch SH845028 (**47**) 11.ix.2010, M.D. Haigh *per* PRW

- 299 *Parectopa ononidis* (Zell.) — Dersingham TF687305 (**28**) 11.ix.2010, genitalia det. JC — R. Evan Jones *per* JRW
- 300 *Parornix loganella* (Staint.) — Loch Droma NH2774 (105) larvae on *Betula nana* 15.ix.2009, moth emerged 11.v.2010, genitalia det. RJH, apparently the first record of this species being reared in the British Isles from *Betula nana* — SDB
- 302a *P. carpinella* (Frey) — Chicksands Wood TL1040 (**30**) mines on *Carpinus betulus* 2.x.2010 — AMB & MGB *per* DVM
- 305 *P. scoticella* (Staint.) — Anglesey Abbey TL528618 (**29**) mines on *Sorbus aria* 14.vi.2009, moths bred — IB
- 310 *Callisto denticulella* (Thunb.) — St John's Wood M998561 (**H25**) vacated mine on *Malus sylvestris* 24.ix.2010 — KGMB
- 313 *Acrocercops brongniardella* (Fabr.) — Duncan Wood, Budby SK6171 (**56**) larval mines on *Quercus cerris* 27.viii.2010 — SHH
- 318 *Phyllonorycter tenerella* (Joann.) — Osborne Estate SZ5195 (**10**) mine with pupal exuviae on *Carpinus* 17.viii.2010 — DTB
- 320 *P. quercifoliella* (Zell.) — Carrickavrantry S551023 (**H6**) 31.viii.2010 — TB
- 321a *P. platani* (Staud.) — Nottingham SK539378 (**56**) mines on *Platanus* 14.xi.2007 — G. Burton *per* DB; Derby SK34243641 (**57**) mines on *Platanus* 20.x.2010 — DB
- 322 *P. muelleriella* (Zell.) — Cardiff (**41**) 12.viii.2009, det. DJS — M. Powell & D. Gilmour *per* DJS, *Ent. Rec.* **122**: 195
- 327 *P. hostis* Triberti (= *cydoniella* auctt.) — Carrickavrantry S550022 (**H6**) tenanted mine on *Malus sylvestris* 6.x.2010 — TB
- 328 *P. junoniella* (Zell.) — Stiperstones NNR SO3698 (**40**) tenanted mine on *Vaccinium vitis-idaea* 11.iii.2010 — R. Homan *per* AGB
- 330 *P. cerasicolella* (H. – S.) — Kilburn Woods SE5180 (**62**) vacated mine on *Prunus avium* 5.x.2010 — CHF
- 332 *P. corylifoliella* (Hübner) — Dalendrein, Stroncheggan NN070721 (**97**) 28.ix.2010 — JC
- 332a *P. leucographella* (Zell.) — Perth NO12 (**88**) 10.ix.2010 — MRY; Cork City W667720 (H4) on *Cotoneaster* (*C. frigidus*?), previously unrecorded foodplant 2.xi.2010 — KGMB
- 333 *P. salictella* Zell. — Cors y Llyn NNR SO0155 (**43**) mines on *Salix cinerea* 16.x.2009, moths bred — JRL, NRL, PJC & VFC
- 336 *P. dubitella* H.- S. — Cwm Byddog RWT Reserve SO216448 (**43**) mines on *Salix caprea* 6.viii.2010, moths bred, det. JRL— PJC & VFC
- 337 *P. hilarella* (Zett.) Carrickavrantry S549020 (**H6**) 15.viii.2010 — TB
- 340 *P. scopariella* (Zell.) — Dalton SE1517 (**63**) swept from *Cytisus scoparius* 17.vii.2010, conf. HEB — G. Boyd *per* HEB; Tynemouth NZ364705 (**67**) 27.vii.2010, genitalia det. — TJT
- 342 *P. coryli* (Nic.) — Eden G937494 (**H29**) mines on *Corylus avellana* 25.ix.2010 — KGMB
- 343 *P. esperella* Goeze — Lincoln SK969731 (**54**) vacated mine on *Carpinus betulus* 25.ix.2009 — MJG; Hollybank Wood, Ripley SE2759 (**64**) tenanted mines on *Carpinus betulus*, moths bred — CHF
- 344 *P. strigulatella* (L. & Z.) — Kingfishers Bridge TL549732 (**29**) mines on *Alnus incana* 12.vi.2008, moths bred — IB
- 351 *P. lautella* (Zell.) — Minswear Woods SN052139 (**45**) mine on *Quercus* sp. 31.12.2010, moth bred — R. Taylor *per* ADL

- 354 *P. emberizaepenella* (Bouché) — Sherwood Forest Center Parcs SK6363 (**56**) larval mines on *Symphoricarpos rivularis* 28.viii.2010 — SHH; Inchmarlo NO6796 (**91**) 31.viii.2010 — C.W.N. Holmes & KPB
- 360 *P. kleemannella* (Fabr.) — Tramore S569017 (**H6**) tenanted mines on *Alnus* sp.14.x.2010 — TB
- 363 *P. platanoidella* (Joann.) — Llanelwedd Quarry SO058520 (**43**) mines on *Acer platanoides* 6.vii.2010, moths bred — PJC & VFC
- 365 *P. comparella* (Dup.) — Alexandra Park TQ298901 (**21**) mines on *Populus canescens* 22.ix.2010 — HMB; Worcester- Powick Bridge (37) mines on *Populus x canadensis* 21.ix.2010, first county record since 1873 — O. Wadsworth *per* ANBS
- 366 *P. sagitella* (Bjerk.) — Burwell TL581761 (**29**) mines on *Populus tremula* 16.x.2008, moth emerged the following day — IB
- 366a *Cameraria ohridella* Dechk. & Dim. — Penzance SW46563011 (**1**) mines on *Aesculus* 29.ix.2010 — JW; West Looe SX251537 (**2**) mines on *Aesculus* 9.ix.2009 — D.G. Green *per* RDE; Llwyngwair Wood, Newport (**45**) mines on *Aesculus* 14.ix.2010 — ADL; Houghall Woods NZ2740 (**66**) tenanted mines on *Aesculus hippocastanum* 25.x.2010 — TJB; Morpeth NZ202861 (**67**) 10.xi.2010, tenanted mine on *Aesculus* — TJT; Greenside, Kendal SD5092 (**69**) mine on *Aesculus* 9.ix.2010 — RH; Keswick NY2673 (**70**) mine on *Aesculus* 16.x.2010 — RH
- 367 *Phyllocnistis saligna* (Zell.) — Chicksands Wood TL1040 (**30**) 8.viii.2010 — AMB & MGB *per* DVM; Hay Warren SO2242 (**42**) mines on *Salix* sp. 1.xi.2010 — NRL
- 368 *P. unipunctella* (Steph.) — Lennoxlove House NT5171 (**82**) mines on *Populus nigra* 25.vii.2010, moths bred — KPB
- 369 *P. xenia* Hering — Alexandra Park TQ 298901 (**21**) mines on *Populus alba* 22.ix.2010 — HMB; Holme next the Sea TF717449 and TF715449 (**28**) mines on *Populus alba* 5.ix.2010, moth bred — IB & K. Rosewarne; Burwell TL581761 (**29**) mines on *Populus alba* 29.viii.2010, moths bred — IB & K. Rosewarne

## CHOREUTIDAE

- 387 *Prochoreutis sehestediana* (Fabr.) — Maesteg SS8592 (**41**) 13.viii.2009 — P. Parsons *per* DJS

## GLYPHIPTERIGIDAE

- 392 *Glyphipterix schoenicolella* Boyd — Coalfin House NR8958 (**101**) 25.vi.2010 — SEM
- 397 *G. thrasonella* (Scop.) — Knoppoge Bridge W583957 (**H5**) 6.vi.2010 — KGMB

## YPONOMEUTIDAE

- 401 *Argyresthia laevigatella* (Heydenreich) — Auchencairn NX806514 (**73**) 27.vii.2010, genitalia det. KPB — E.A. MacAlpine *per* KAN
- 403 *A. glabratella* (Zell.) — Cheddington ST4907 (**5**) 2.vii.2010, female genitalia det. JAMcG; Bernwood Forest SP6110 & SP6111 (**24**) 17.vi.2010, male & female genitalia det. — PRH & D. Wilton *per* MVA; Inchmarlo NO6796 (**91**) 18.vii.2010 — C. Holmes *per* MRY
- 406 *A. abdominalis* (Zell.) — Windsor Hill SP8203 (**24**) 14.vii.2009 — MCH *per* MVA
- 407 *A. dilectella* (Zell.) — Zeal Monachorum SS719039 (**4**) at light 18.vii.2010 — SDB
- 409a *A. trifasciata* Staud. — Swarland NU163035 (**68**) 5.vi.2010 — A. Fairclough *per* TJT; Kilmacolm NS360703 (**76**) 9.vi.2010 — N. Gregory *per* MRY
- 409b *A. cupressella* Wals. — Staplegrove ST2121 (**5**) 18.vi.2010 — JAMcG; Shaggs SY855832 (**9**) 28.vi.2010 — MSP & L. Hill; Chilbolton SU3939 (**12**) 12.vi.2010 —



- G.C. Evans *per* MJW; Orton Waterville TL157957 (**31**) 25.vi.2010, genitalia det. BD — J. Newman *per* BD; Clos Helyg, Gowerton SS5896 (**41**) 16.vi.2009 — C.M. Manley *per* DJS **New to Wales**
- 412 *A. pygmaella* ([D. & S.]) — Inchmarlo NO6796 (**91**) 16.viii.2010 — C. Holmes *per* MRY
- 416 *A. glaucinella* Zell. — Claonaig oakwood & shore NR8655 (**101**) 25-27.vi.2010 — SEM
- 418 *A. conjugella* Zell. — Orton Waterville TL157957 (**31**) 9.vi.2010, genitalia det. BD — J. Newman *per* BD
- 424 *Yponomeuta evonymella* (Linn.) — Dunbeath Strath ND153305, (**109**) 15.viii.2010 — N. Money *per* MRY
- 425 *Y. padella* (Linn.) — South Glendale, South Uist NF791153 (**110**) 25.vii.2010 — J. Kemp *per* MRY
- 427 *Y. cagnagella* (Hübner.) — St John's Wood M993564 (**H25**) 1.viii.2010 — KGMB; Kilkeeran M164723 (**H26**) larval spinings on *Euonymus europaeus* 20.vi.2010 — KGMB
- 428 *Y. rorrella* (Hübner.) — Anstruther NO563032 (**85**) 28.vii.2010, genitalia det. KPB — A-M. Smout *per* DWW **New to Scotland**
- 429 *Y. irrorella* (Hübner.) — Aylesham, TR2352 (**15**) 13.vii & 19.vii. 2010, det. DJLA — D. Shenton *per* DJLA; Braintree TL76823 (**19**) 9.vii.2010 — SAR
- 430 *Y. plumbella* ([D. & S.]) — Pennorth SO1125 (**42**) 14.viii.2010 — V.A.King *per* NRL; Cloonamarve M135553 (**H16**) larval webs on *Euonymus europaeus* 20.vi.2010 — KGMB
- 435 *Zelleria hepariella* Staint. — North Ferriby TA0026 (**61**) 9.viii.2010 — I. Marshall *per* HEB
- 436 *Pseudoswammerdamia combinella* (Hübner.) — St John's Wood M996563 (**H25**) 18.vi.2010 — KGMB
- 439 *Swammerdamia compunctella* H. – S. — Raphoe C257042 (**H34**) 24.vi.2010 — SD
- 441 *Paraswammerdamia nebulella* Goeze — Balbain NH439307 (**96**) 19.vii.2010, genitalia det. — BE
- 445 *Ocnerostoma friesei* Svens. — Astley Moss SJ7097 (**59**) 24.iv.2010, genitalia det. SMP — G. Riley & I. Walker *per* SMP; Doire Locháin Thoir M177232 (**H16**) 4.viii.2010, genitalia det. — KGMB
- 448 *Atemelia torquatella* (L. & Z.) — near Grass Point NM744304 Mull (**103**) 13.ix.2010 two larvae in leaves of *Betula* sp. and one in leaf of *Myrica gale*, moth reared from the latter 5.v.2011 — SDB & RJH
- 449 *Prays fraxinella* (Bjerk.) — St John's Wood M996563 (**H25**) f. *rustica*. 18.vi.2010, genitalia det. — KGMB
- 449c *P. oleae* (Bernard) — Hilliers Arboretum, Romsey SU3732 (**11**) mines on *Olea europaea* 25.iv.2010, two moths bred — BE; Southsea SZ655987 (11) at garden mv trap 26.viii.2010, female genitalia det. — JRL; Raglan Garden Centre, Bryngwyn SO3808 (**35**) two larvae on *Olea europaea* 3.iv.2010, moths bred — JRL, **New to Wales**
- 450 *Scythropia crataegella* (Linn.) — TA0532 (**61**) 2.vii.2010 — A. Ashworth *per* HEB
- 455 *Ypsolopha scabrella* (Linn.) — St John's Wood M994563 (**H25**) 14.viii.2010 — KGMB
- 460 *Y. parenthesella* (Linn.) — St John's Wood M998559 (**H25**) 1.viii.2010, genitalia det. — KGMB
- 461 *Y. ustella* (Cl.) — St John's Wood M988568 (**H25**) 10.iv.2010, genitalia det. — KGMB

- 462 *Y. sequella* (Cl.) — Allanton House, Auldgirth NX9185 (**72**) 13.vii.2010 — P. Norman *per* KAN; SW of Howfield NT0095 (**87**) 24.vii.2010, det. KPB — E. Fuentes-Montemajor *per* KPB; Montrose Basin NO691565 (**90**) 26.vii.2010 — P. Brooks *per* MRY
- 252 *Ochsenheimeria urella* F. v. R. — Stankey Hill SO1676 (**43**) 26.vii.2010 — PJC & VFC; Liniclate, South Uist NF784496 (**110**) 9.viii.2010 — C. Johnson *per* MRY
- 465a *Plutella haasi* Staud. — Ben More, Mull (**103**) 12.ix.2010 larvae, moths bred; Trotternish Ridge, Isle of Skye (**104**) 16.ix.2009 and 18.iv.2010 larvae, moths bred; Blaven, Isle of Skye (104) 21.iv.2010 larvae, moths bred; Beinn Eighe (105) 11.ix.2009 larvae, moths bred. Over 550 larvae or their distinctive spinings were found, all on *Arabidopsis petraea*. These are the first larval records from the British Isles and probably from Europe — all SDB & RJH
- 467 *Rhigognostis annulatella* (Curt.) — Blaven, Isle of Skye (104) larva on *Arabidopsis petraea* 21.iv.2010, moth bred; East Neap, Fetlar (112) larvae on *Cardamine hirsute* 12.v.2010, moths bred. Prior to this, in the British Isles the only known foodplant was *Cochlearia officinalis* agg. — RJH
- 468 *R. incarnatella* (Steud.) — Chippermere Point NX2947 (**74**) 23/24.vii.2010, det. KPB — R. & B. Mearns *per* KPB; Kilmacolm NS360703 (**76**) 23.iii.2010 — N. Gregory *per* MRY; Stamullen O146662 (**H22**) 24.iii.2010 — EO'D
- 472 *Digitivalva pulicariae* (Klim.) — Flamborough TA2270 (**61**) three 31.vii-21.viii.2010 — M. Pearson *per* HEB
- 473 *Acrolepiopsis assectella* (Zell.) — Hillesden SP6929 (**24**) 8.viii.2010, male genitalia det. PRH — M. Botham *per* MVA; Auchencairn NX806514 (**73**) 12.vii.2010, det. KPB — E.A. MacAlpine *per* KAN
- 476 *Acrolepia autumnitella* Curt. — Traethdy, Harlech SH574301 (**48**) 9.iv.2010 — H. Bantock *per* ANG; Sherwood Forest Center Parcs SK6363 (**56**) tenanted mines on *Solanum dulcamara* 28.viii.2010 — SHH

## LYONETIIDAE

- 259 *Leucoptera lotella* (Staint.) — Blaxton SE6803 (**63**) vacated mine on *Lotus* sp. 3.xi.2010 — S.R. Sowden *per* HEB
- 263 *Lyonetia clerkella* (Linn.) — Dalendrein, Stroncheggan NN070721 (**97**) 28.ix.2010 — JC

## COLEOPHORIDAE

- 487 *Metriotes lutarea* (Haw.) — Ciltwrch SO163399 (**43**) 10.v.2010 — PJC & VFC
- 494a *Coleophora prunifoliae* Doets — How Caple SO630298 (**36**) 30.vi.2010, genitalia det. P. Bradley, conf. ANBS — R. Hemming *per* PK
- 496a *C. adjectella* H.-S. — Middleton Hall SP1998 (**38**) 9.vii.2010, genitalia det. (two males) — M. Kennard & A. Prior *per* NJS
- 497 *C. badiipennella* (Dup.) — Whittle Dene NZ074671 (**67**) 4.vi.2010, genitalia det. — K.W. Regan *per* TJT
- 499 *C. limosipennella* (Dup.) — Breidden Hill SJ296149 (**47**) mines and one case on *Ulmus glabra* 11.viii.2010 — ANG & JEG *per* PRW
- 502 *C. trigeminella* Fuchs — Bishops Itchington - Bishops Bowl Lakes SP38845866 (**38**) 30.vi.2010, male genitalia det. — A. Prior *per* NJS
- 503 *C. fuscocuprella* H.-S. — Halton Quay SX414658 (**2**) seven cases on *Corylus avellana* 17.x.2010, det. JRL from photograph — J. & T.D. Sleep *per* LACT

- 510 *C. juncicolella* Staint. — Llandeilo Hill SO1046 (**43**) case on *Calluna* 18.iv.2010 — PJC & VFC
- 517 *C. alcyonipennella* (Koll.) — Glasbury SO180390 (**43**) 18.v.2010, genitalia det. PJC — PJC & VFC
- 517a *C. frischella* (Linn.) — Puddletown SY7695 (**9**) 23.v.2010, genitalia det. PHS — H. Wood Homer *per* PHS; Studham Common TL0215 (**30**) 31.v.2010, genitalia det. DVM — C.R.B. Baker *per* DVM; Ffrwdgrech SO0228 (**42**) 28.v.2010, female genitalia det. — NRL & JRL; Ellington Banks MOD SE2773 (**64**) 21.v.2010, male genitalia det. CHF — CHF, J.C. Warwick & D.M. Bowes,
- 518 *C. mayrella* (Hübner.) — Claonaig Wood NR8655 (**101**) 27.vi.2010 — SEM
- 519 *C. deauratella* (L. & Z.) — Broadholme SK8974 (**56**) 17.vi.2010, genitalia det. — MJG; Lytham St Anne's SD3130 (**60**) 23.vi.2010 — SMP & JRL; St John's Wood M996563 (**H25**) 18.vi.2010, male genitalia det. — KGMB
- 521 *C. conyzae* Zell. — Earith TL390751 (**31**) 7.vii.2010, genitalia det. BD — D. Griffiths *per* BD
- 522 *C. lineolea* (Haw.) — Swarland Wood NU161030 (**68**) larval cases on *Stachys sylvatica* 15.ix.2010 — A. Fairclough *per* TJT
- 523 *C. hemerobiella* (Scop.) — Sunderland Wood SP7579 (**32**) 24.vii.2010 — J. Skinner *per* DVM
- 526 *C. laricella* (Hübner.) — Auchnacraig, Mull NM724327 (**103**) 20.vi.2010 — G. Finch *per* MRV; Knocknageeha R540953 (**H9**) case and mined needles on *Larix* sp. 9.v.2010 — KGMB
- 530 *C. lixella* Zell. — Hindolveston TG045297 (**27**) 7.viii.2010, genitalia det. — JC
- 533 *C. anatipennella* (Hübner.) — Cors Dyfi SN704986 (**47**) 20.vi.2010 — P. Bent *per* PRW
- 536 *C. betulella* Hein. — Glasbury SO180390 (**43**) 26.vi.2010, genitalia det. VFC — PJC & VFC; Sherwood Forest SK627678 (**56**) cases on *Betula* sp. 9.v.2010 — T&DP
- 544 *C. albicosta* (Haw.) — Glasbury SO180390 (**43**) 5.vi.2010, genitalia det. VFC — PJC & VFC; Crossaig NR8351 (**101**) 27.vi.2010 — SEM; St John's Wood M996563 (**H25**) 18.vi.2010 — KGMB
- 545 *C. saturatella* Staint. — Turville Heath SU7491 (**24**) 5.vi.2010, female genitalia det. — PRH & MVA
- 548 *C. niveicostella* Zell. — Orton Waterville TL157957 (**31**) 23.vi.2010, genitalia det. BD — J. Newman *per* BD; Hope-under-Dinmore SO503526 (**36**) 30.vii.2010, genitalia det. P. Bradley, conf. A.N.B. Simpson, first county record since 1908 — R. Hemming *per* PK
- 553 *C. striatipennella* Nyl. — St John's Wood M996563 (**H25**) 18.vi.2010, genitalia det. — KGMB
- 559 *C. peribenanderi* Toll — Guisborough NZ6116 (**62**) 27.vi.2010, genitalia det. HEB — R. Woods *per* HEB; Barna M243236 (**H16**) 24.vi.2010, genitalia det. — KGMB
- 564 *C. virgaureae* Staint. — Auchencairn NX806514 (**73**) 8.viii.2010, genitalia det. KPB — E.A. MacAlpine *per* KAN; near Creg Mhòr, Mull NM4736 (**103**) cases on *Solidago virgaurea* 15.ix.2010 — SDB & RJH
- 565 *C. saxicolella* (Dup.) — Llanfyllin SJ157210 (**47**) 26.vii.2010, genitalia det. ANG — M.D. Haigh *per* PRW
- 568 *C. versurella* Zell. — Nosterfield NR SE2779 (**65**) 28.vi.2010, female genitalia det. CHF — CHF, J.C. Warwick & S.P. Worwood,
- 570 *C. pappiferella* Hofm. — Horseleap Crossroads M559464 (**H17**) 20.v.2010, genitalia det. — KGMB

- 552 *C. lassella* Staud. — Wash Common SU453646 (**22**) 23.vi.2010, genitalia det. P. Hall — NA
- 582 *C. glaucicolella* Wood — Gleann Gaoith NN3607 (**86**) 15.viii.2010 — CWP; St John's Wood M996563 (**H25**) 18.vi.2010, genitalia det. — KGMB
- 587 *C. caespititiella* Zell. — Oakridge SO9003 (**33**) 5.vi.2010, genitalia det. — G.H.J. Meredith *per* RGG; The Old Mill Maenan SH794657 (**49**) 4.vi.2010, genitalia det. DVM — AGB & MGB
- 588 *C. salicorniae* Hein. & Wocke — Brinefields, Teesmouth NZ5124 (**66**) 4.viii.2010, genitalia det. HEB — R. Woods *per* TJB
- 589 *Coleophora clypeiferella* Hofm. — Spurn TA4115 (**61**) 21.vii.2010 genitalia det. — B. R. Spence *per* HEB

## ELACHISTIDAE

- 590 *Perittia obscurepunctella* (Staint.) — Carrickavrantry S553018 (**H6**) 19.iv.2010 — TB
- 597 *Elachista atricomella* Staint. — Llanfyllin SJ157210 (**47**) 9.vi.2010, genitalia det. ANG — M.D. Haigh *per* PRW; Craignure, Mull NM723369 (**103**) 23.vi.2010 — A. Kirkham *per* MRY; Rossal Cottage NC691037 (**107**) 16.vi.2010 — K. McCabe *per* MRY; Castlerea M663799 (**H25**) 19.vi.2010 — KGMB; Kilkeeran M164726 (**H26**) 16.viii.2010 — KGMB
- 599 *E. alpinella* Staint. — Maesteg, Mynydd Bach SS8592 (**41**) 7.viii. 2009, det. DJS — P. Parsons *per* DJS; Vyrnwy SH9625 (**47**) 12.vii.2000, male genitalia det. ANG — M.J. Haigh *per* PRW; Mersehead RSPB Reserve (**73**) 26.vi.2010, genitalia det. KPB — KAN
- 607 *E. canapennella* (Hübner.) — Mountallen G948134 (**H25**) 2.viii.2010, genitalia det. — KGMB
- 608 *E. rufocinerea* (Haw.) — Burfa Bank SO2860 (**43**) 16.v.2010, genitalia det. PJC — PJC & VFC
- 613 *E. subocellea* (Steph.) — Dancersend Waterworks SP9008 (**24**) 22.vi.2010 — PRH *per* MVA
- 620 *E. gangabella* Zell. — Apley TF1176 (**54**) 2.vi.2010 — CS; Ellington Banks MOD SE2773 (**64**) 25.vi.2010, female genitalia det. HEB — CHF, J.C. Warwick & D.M. Bowes
- 630 *Biselachista albidella* (Nyl.) — Anstruther NO563032 (**85**) 18.vii.2010, genitalia det. KPB — A-M. Smout *per* DWWD
- 631 *Cosmiotes freyerella* (Hübner.) — Fron Wood, Llowes SO191420 (**43**) 3.v.2010, genitalia det. VFC — PJC & VFC; Felindre Farchog SN100390 (**45**) 2.v.2010 — J. Atkinson *per* ADL

## OECOPHORIDAE

- 636 *Denisia similella* (Hübner.) — Nigg NH77 (**106**) 29.vi.2010 — N. Richards *per* MRY
- 638a *D. albimaculea* (Haw.) — Old Weston Grove TL089770 (**31**) 21.vi.2010 — K. Royles *per* BD
- 639 *Bisigna procerella* ([D. & S.]) — near Beckley TQ850210 (**14**) 19.vii.2010 — S. Wheatley *per* CRP
- 642 *Batia unitella* (Hübner.) — Torpoint SX436547 (2) 27.vii.2010, first county record since VCH — LACT
- 642a *Metalampra italica* Baldizzone — Bramfield TM400739 (**25**) 22.viii.2010, det. RJH — R.M. Harvey *per* JBH



- 646 *Telechrysis tripuncta* (Haw.) — Holme-next-Sea TF712432 (28) 22.vi.2010, first VC record for over 100 years — P. Tilley *per* JRW; Llanfyllin SJ157210 (47) 26.vi.2009, det. RJH — M.D. Haigh *per* PRW
- 648 *Endrosis sarcitrella* (Linn.) — Rossal Cottage NC691037 (107) 14.vi.2010 — K. McCabe *per* MRY
- 649 *Esperia sulphurella* (Fabr.) — Claonaig NR8655 (101) 27.vi.2010 — SEM; The Mound NC774981 (107) 16.vi.2010 — K. McCabe *per* MRY
- 653 *Aplota palpellus* (Haw.) — Mottisfont Great Copse SU3238 (11) 23.vii.2010, first VC record for over 100 years — A.M.Davis *per* MJW
- 656 *Tachystola acroxantha* (Meyr.) — Bullen Hill Farm ST894579 (8) 18.viii.2010 — EGS & MHS; St Martin, Guernsey WV331759 (113) 25.vi.2010, det. PHS — J. Cleal *per* PDMC
- 656a *Barea asbolaea* (Meyrick, 1933) — Penzance (1) 2004 and between April and September in subsequent years — L. & H. Oakes, *Ent. Rec.* 122: 185-190, **New to the British Isles and Europe**
- 658 *Carcina quercana* (Fabr.) — Langbank NS385729 (76) 18.vii.2010 — D. Fotheringham *per* MRY
- 660 *Pseudatemelia josephinae* (Toll) — Collyweston Great Wood (32) 25.vi.2010, genitalia det. DVM — R. Follows *per* DVM
- 663 *Diurnea flagella* ([D. & S.]) — Cappanahanagh Wood R710583 (H8) 18.iv.2010 — KGMB
- 666 *Semioscopis avellanella* (Hübner.) — Preston Plantation NT788588 (81) 28.iv.2010 — B. Prater *per* MRY
- 667 *S. steinkellneriana* ([D. & S.]) — Drumlamph Wood H839038 (H40) 1.v.2010, det. JRL from photograph — K. Leonard *per* ER, **New to Ireland**
- 670 *Depressaria daucella* ([D. & S.]) — Burnham Beeches SU9484 (24) in RIS trap 9.iv.2009, male genitalia det. PRH — MVA
- 671 *D. ultimella* Staint. — Stamullen O146662 (H22) 17.v.2010 — EO'D
- 672 *D. heraclei* Retz. — Links of Machrihanish at Westport NR6526 (101) 26.vi.2010 — SEM
- 674 *D. badiella* (Hübner.) — Nosterfield NR SE2779 (65) 11.ix.2010, male genitalia det. CHF — J.C. Warwick & D.M. Bowes *per* CHF; Corserig Hill, Kelloholm NS7008 (72) 4.ix.2010, det. KPB — KAN; Cruachan South Uist NF804143 (110) 11.vii.2010 — J. Kemp *per* MRY
- 676 *D. pulcherrimella* Staint. — Charlton Kings Common SO9618 (33) 16.viii.2010, genitalia det. — G.H.J. Meredith *per* RGG
- 681 *D. olerella* Zell. — Drumguish NN793994 (97) 29.v.2010 genitalia det. — BPH
- 688 *Agonopterix heracliana* (Linn.) — Grannaghan M999760 (H25) 1.viii.2010 — KGMB; Shancurry G950099 (H29) 3.viii.2010 — KGMB
- 691 *A. purpurea* (Haw.) — Auchencairn NX806414 (73) 9.vi.2007, det. KPB — E.A. MacAlpine *per* KPB **New to Scotland**
- 695 *A. alstromeriana* (Cl.) — Dalendrein, Stroncheggan NN070721 (97) 28.ix.2010 — JC
- 697 *A. arenella* ([D. & S.]) — St John's Wood M999563 (H25) 20.v.2010 — KGMB
- 701 *A. ocellana* (Fabr.) — Culzean NS245101 (75) 13.vi.2010 — N. Gregory *per* MRY; 1km N. of Cour NR8249 (101) larvae on *Salix aurita* 27.vi.2010, moths bred — SEM; Carrickavrantry S550021 (H6) 27.viii.2008 — TB

- 705 *A. umbellana* (Fabr.) — Cleeve Hill SO9826 (**33**) several tubes/webs in *Ulex* sp. 14.vii.2010, moth emerged 6.viii.2010 — R. Homan *per* RGG; Castle Wood, near Caerlaverock NY0265 (**72**) 8.x.2010 — KAN; Hill of Rattar ND244733 (**109**) 5.viii.2010 — N. Money *per* MRY
- 706 *A. nervosa* (Haw.) — Mountallen G948134 (**H25**) 2.viii.2010 — KGMB
- 714 *A. yeatiana* (Fabr.) — Cors Dyfi SN705987 (**47**) 24.iv.2010 — P. Bent *per* PRW

## ETHMIIDAE

- 718 *Ethmia dodecea* (Haw.) — Bernwood Forest SP6110 (**24**) 7.vii.2010 — PRH & D. Wilton *per* MVA

## GELECHIIDAE

- 726 *Metzneria metzneriella* (Staint.) — St John's Wood M996563 (**H25**) 18.vi.2010, genitalia det. — KGMB
- 727 *M. neuropterella* (Staint.) — Pewley Down TQ007489 (17) 29.vii.2010, first county record since 1894 — P.R. Wheeler *per* JP
- 729 *Isophrictis striatella* ([D. & S.]) — Cinderford SO6415 (**34**) larva on *Achillea ptarmica* 13.x.2010 — G.H.J.Meredith *per* RGG
- 731 *Eulamprotes atrella* ([D. & S.]) — Grannaghan M999760 (**H25**) 1.viii.2010, genitalia det. — KGMB
- 733 *E. wilkella* (Linn.) — The Raven T112265 (**H12**) 4.vi.2010 — EO'D
- 734 *Argolamprotes micella* ([D. & S.]) — Weston Colley SU5039 (**12**) 1.vii.2010 — D.G. Green *per* MJW
- 728 *Monochroa cytisella* (Curt.) — Alsager SJ819545 (**58**) 21.vii.2010 — M. Dale *per* SHH; North Cliffe Wood SE8637 (**61**) 9.vii.2010, det. HEB — M. Coverdale *per* HEB; Auchameanach shore NR8856 (**101**) 26.vi.2010 — SEM
- 738 *M. tetragonella* (Staint.) — Sunderland Point SD4255 (**60**) 30.vi.2010, genitalia det. — J. Girdley *per* SMP; Spurn TA4115 (**61**) 1 & 4.viii.2010, genitalia det. — B. R. Spence *per* HEB
- 746 *Chrysoesthia drurella* (Fabr.) — Wescott SP7117 (**24**) 16.viii.2010, female genitalia det. PRH — D. Wilton *per* MVA; near Cambridge SO7404 (**34**) 22.v.2010, genitalia det. A. Prior — S. Chappell *per* RGG
- 747 *C. sexguttella* (Thunb.) — Carrowphadeen M986521 (**H25**) vacated mines on *Atriplex* sp. 18.vi.2010 — KGMB
- 752 *Aristotelia ericinella* (Zell.) — Cors-y-Llyn NNR SO0155 (**43**) 21.vii.2010 — PJC & VFC; Derrynaneal R544833 (**H9**) 22.vii.2010 — KGMB
- 753 *A. brizella* (Treits.) — Morston (**27**) 20.v.2010, genitalia det. JC — R. Lee *per* JRW
- 779 *Bryotropha affinis* (Staint.) — Traad Point H953870 (**H40**) 25.v.2010 — KL
- 780 *B. similis* (Staint.) — Blairlogie NS8296 (**77**) 11.vii.2010, genitalia det. KPB — E. Fuentes-Montemajor *per* KPB
- 788 *B. politella* (Staint.) — Stankey Hill SO1676 (**43**) 26.vii.2010, genitalia det. PJC — PJC & VFC
- 760 *Exoteleia dodecella* (Linn.) — Llanfyllin SJ157210 (**47**) 2.vii.2009, det RJH — M.D. Haigh *per* PRW; Crossaig NR8351 (**101**) 27.vi.2010 — SEM; The Raven T113261 (**H12**) 26.vi.2010 — EO'D
- 763 *Xenolechia aethiops* (H. & W.) — Glen Mark NO4381 (**90**) 12.iv.2010 — P. Brooks *per* MRY
- 769 *Teleiodes wagaie* (Now.) — St John's Wood M999562 (**H25**) 20.v.2010, genitalia det. — KGMB

- 767 *Carpatolechia decorella* (Haw.) — Commins Coch SH845028 (47) 20.viii.2010, det. M.D. Haigh — PRW; Saltburn NZ6620 17.iii.2010 and Skelton Castle NZ6519 (62) 3.xi.2010, genitalia det. HEB — D. Money *per* HEB
- 768 *C. notatella* (Hübner) — Paddock Burn NT3131 (78) larva on *Salix cinerea* 12.ix.2010, moth bred — KPB
- 772 *C. fugitivella* (Zell.) — Den of Maiden Craig NJ8706 (92) 30.vii.2010 — H. Rowe *per* MRY
- 790 *Chionodes fumatella* (Dougl.) — Hutton Conyers SE3273 (65) 21.viii.2010, male genitalia det. — CHF
- 792 *Mirificarma mulinella* (Zell.) — Dunnet Dunes Site 9 ND218699 (109) 2.viii.2010 — M. Legg *per* MRY; Garvros, Lough Melvin G931531 (H33) 15.viii.2010 — KGMB
- 801 *Gelechia scotinella* H.-S. — Cockayne Hatley TL2549 (30) in RIS trap 20-26.viii.2010, genitalia det. DVM — DVM; St Neots Railway Meadow TL193591 (31) 3.viii.2010, genitalia det. — BD
- 806 *G. nigra* (Haw.) — Ashpark Wood SU995319 (13) 24.vii.2010, det. MFVC — M.C. Townsend *per* CRP
- 808 *Platyedra subcinerea* (Haw.) — Budleigh Salterton SY062817 (3) 18. & 21.viii.2010 larvae in seeds of *Malva sylvestris*, moths bred, first county record for about 130 years — RJH; Weston Colley SU5039 (12) 23.vi.2010 — D.G. Green
- 812 *Scrobipalpa instabilella* (Dougl.) — Billingham NZ4621 (66) 20.v.2010, genitalia det. HEB, first confirmed VC record for over 100 years — R. Woods *per* TJB
- 813 *S. salinella* (Zell.) — Brinefields, Teesmouth NZ5124 (66) 4.viii.2010, genitalia det. HEB, first VC record since at least 1912 — R. Woods *per* TJB
- 819 *S. costella* (H. & W.) — Castle Wood, near Caerlaverock NY0265 (72) 8.x.2010 — KAN
- 825a *Tuta absoluta* (Meyr.) — Richmond Park TQ1971 (17) one male to light 9.vi.2010, genitalia det. — THF; Glasbury SO180390 (43) indoors 24.vii.2010 — PJC & VFC, **New to Wales**
- 830 *Caryocolum fraternella* (Dougl.) — Llanfyllin SJ157210 (47) 26.vii.2010, genitalia det. ANG — M.D. Haigh *per* PRW
- 832 *C. blandella* (Dougl.) — Langley Park TQ0082 (24) 30.vii.2010, female genitalia det. — MVA & PRH
- 834 *C. tricolorella* (Haw.) — Glasbury SO180390 (43) 28.viii.2010 — PJC & VFC
- 841 *Sophronia semicostella* (Hübner) — Cinderford SO6414 (34) 26.vi.2010 — G.H.J. Meredith *per* RGG
- 844 *Syncopacma larseniella* (Gozmany) — Llowes SO190422 (43) 30.vi.2010, genitalia det. VFC — PJC & VFC
- 855 *Acompsia cinerella* (Cl.) — Brook Down SZ855398 (10) 15.viii.2010, det. MJW — D. Cooke *per* SAK-J; Llanfyllin SJ157210 (47) 28.vii.2010, genitalia det. ANG — M.D. Haigh *per* PRW
- 856 *Anarsia spartiella* (Schr.) — Whitley Bay NZ350731 (67) 10.vii.2010 — K. W. Regan *per* TJT; Chippermere Point, Luce Bay NX2947 (74) 23.vii.2010, det. KPB — R. & B. Mearns *per* KAN; Balbain NH439307 (96) 19.vii.2010 — BE; Stamullen O146662 (H22) 30.vi.2010 — EO'D
- 858 *Hypatima rhomboidella* (Linn.) — St John's Wood M994563 (H25) 31.vii.2010 — KGMB
- 868 *Helcystogramma rufescens* (Haw.) — Crossaig NR831515 (101) 25.vi.2010 — SEM

## AUTOSTICHIDAE

- 870 *Oegoconia quadripuncta* (Haw.) — Colwyn Bay SH8378 (**50**) in RIS trap 22.vii.2010, male genitalia det. — RMP; Billingham NZ4621 (**66**) 5.viii.2010, genitalia det. HEB — R. Woods *per* TJB; Cork City W667713 (**H4**) 2.vii.2010 — KGMB

## BLASTOBASIDAE

- 873 *Blastobasis adustella* Wals. — St John's Wood M994563 (**H25**), 31.vii.2010 — KGMB
- 874 *B. lacticolella* (Woll.) — Crossaig NR831515 (**101**) 25.vi.2010 — SEM
- 875 *B. rebeli* Karsholt & Sinev — Crymlyn Bog SS6894 (**41**) three at mv light 6.viii.2010, det. DJS — Glamorgan Moth Recording Group *per* DJS; Martin Mere SD4214 (**59**) 11.vii.2010 — A. P. Bunting *per* SMP

## BATRACHEDRIDAE

- 878 *Batrachedra praeangusta* (Haw.) — SW of Howfield NT0095 (**87**) 24.vii.2010, det. KPB — E. Fuentes-Montemajor *per* KPB; Montrose Basin NO691565 (**90**) 18.viii.2010 — P. Brooks *per* MRY

## STATHMOPODIDAE

- 877 *Stathmopoda pedella* (Linn.) — Easton Hornstocks TF0100 (**32**) 20.vii.2010 — J. Skinner *per* DVM; Coln Lakes SU1899 (**33**) 10.vii.2010 — B. Pollard *per* RGG, *Ent.Rec.* **123**: 81-82 & 105-106

## MOMPHIDAE

- 880 *Mompha langiella* (Hübner) — Hopetoun House NT0978 (**84**) mines on *Epilobium* sp. 20.vi.2010, moths bred — KPB
- 881 *M. terminella* (H. & W.) — St Donat's SS9367 (**41**) vacated mine on *Circaea lutetiana* 22.viii.2009 — DJS
- 882 *M. locupletella* ([D. & S.]) — Gosforth Park Woods NZ256706 (**67**) 27.vi.2010 — P. Drummond *per* TJT; Auchencairn NX8051 (**73**) 27.vi.2010, det. KPB — E.A.M. MacAlpine *per* KPB
- 883 *M. raschkiella* (Zell.) — South Glendale, South Uist NF791153 (**110**) 8.ix.2010 — J. Kemp *per* MRY; Carrickavrantry S548025 (**H6**) tenanted mine on *Chamerion angustifolium* 9.x.2010 — TB
- 885 *M. conturbatella* (Hübner) — Maesteg, Mynydd Bach SS8592 (**41**) 26.vi.2010 — P. Parsons *per* DJS
- 887 *M. lacteella* (Steph.) — Glasbury SO180390 (**43**) 23.vi.2010, genitalia det. PJC — PJC & VFC; Spylaw Cottage NT2152 (**78**) mines on *Epilobium* sp. 16.x.2010, moths bred — KPB
- 889a *M. bradleyi* Riedl — Fareham SU5905 (**11**) galls on *Epilobium hirsutum* 4.ix.2010, moths emerged the following day onwards — MRY & JRL; Eye (**25**) 26.x.2010, genitalia det. JC — P. Kitchener, *Ent.Rec.* **123**: 83

## COSMOPTERIGIDAE

- 894 *Cosmopterix zieglerella* (Hübner) — Yardley Hastings SP8758 (**32**) mines on *Humulus lupulus* — DVM
- 896 *C. orichalcea* Staint. — The Raven T112265 (**H12**) 4.vi.2010 — EO'D
- 896a *C. scribaiella* Zell. — Weston Colley SU5039 (**12**) 1.vii.2010 — DGG



- 896b *C. pulchrimella* Chambers — Portishead ST4677 (**6**) tenanted mines on *Parietaria judaica* 10.x.2010 — DJLA
- 897 *C. lienigiella* L. & Z. — Oxwich Marsh SS5087 (**41**) 7.vii.2010 — S.D.S. Bosanquet *per* DJS, **New to Wales**
- 899 *Pancalia leuwenhoekella* (Linn.) — Thurlbear SS2721 (5) larvae in roots and a few in tubes attached to the roots of *Viola hirta* 23.viii.2010, moth reared 24.ix.2010. Apparently the first record of the larvae found in the wild in the British Isles since 1889 and probably the first record of the larvae being found within the roots — SDB & RJH
- 904 *Spuleria flavicaput* (Haw.) — Minishant NS3314 (**75**) 6.vi.2010 — D. Smith *per* MRY
- 906 *Blastodacna atra* (Haw.) — Freshwater SZ332868 (**10**) 24.vii.2010, det. MJW — D. Cooke *per* SAK-J
- 907 *Dystebenna stephensi* (Staint.) — Crown East SO80965452 (**37**) 24.vii.2010, genitalia det. — O. Wadsworth *per* ANBS
- 910 *Sorhagenia janiszewskae* Riedl — Upton Fen TG385135 (**27**) larval feeding signs in shoots of *Frangula alnus* 25.v.2010 — ANBS *per* JRW

## SCYTHRIDIDAE

- 920 *Scythris potentillella* (Zell.) — Grain TQ8876 (**16**) 13.vi.2007, det. DJLA — A.G.J. Butcher *per* DJLA

## TORTRICIDAE

- 922 *Phtheochroa schreibersiana* (Fröl.) — Turville Heath SU7491 (**24**) at mv light 5 vi.2010 — PRH, **first national record for very many years**. *Ent. Rec.* **123**: 107-110
- 923 *P. sodaliana* (Haw.) — Kingsthorpe SP7463 (**32**) 20.v.2010 — P.D. Sharpe *per* DVM; St John's Wood M996563 (**H25**) 18.vi.2010 — KGMB, **second Irish record**
- 928 *Gynnidomorpha permixtana* ([D. & S.]) — Braunton Burrows (4) several larvae in seedpods of *Rhinanthus minor* 18.viii.2010, moths bred, apparently the first record of this foodplant in the British Isles — SDB & RJH
- 945 *Aethes cnicana* (Westw.) — Hill of Rattar ND244733 (**109**) 22.vi.2010 — N. Money *per* MRY; Castlereagh M663799 (**H25**) 19.vi.2010 — KGMB
- 946 *A. rubigana* (Treits.) — Craignure, Mull NM723369 (**103**) 11.vii.2010 — A. Kirkham *per* MRY
- 957 *Cochylidia heydeniana* (H.-S.) — Cockayne Hatley TL2549 (**30**) in RIS trap 14-20.v.2010, genitalia det. DVM — DVM; Kimbolton TL095684 (**31**) 4.ix.2010, genitalia det. — BD; Nassington TL0497 (**32**) 18.vii.2010, genitalia det. B. Goodey — CWP *per* DVM
- 964 *C. dubitana* (Hübner) — The Mound NC774981 (**107**) 16.vi.2010 — K. McCabe *per* MRY
- 964a *C. molliculana* Zell. — Moulsoe Old Wood SP9242 (**24**) 22.viii.2010, male genitalia det. PRH — D. Wilton *per* MVA; Easton Hornstocks TF0100 (**32**) 14.viii.2010, genitalia det. DVM — J. Skinner *per* DVM
- 966 *C. atricapitana* (Steph.) — Rossal Cottage NC691037 (**107**) 16.vi.2010 — K. McCabe *per* MRY
- 968 *C. nana* (Haw.) — Penyarreg, Elan Valley SN908676 (**43**) 10.vi.2010 — NRL, PJC, VFC & R. Hobson; Plas-y-Ffynnon, Temple Bar SN082391 (**45**) 2.vii.2010 — North Pembrokeshire Moth Group *per* ADL; Ardnasillagh M165420 (**H16**) 23.v.2010, genitalia det. — KGMB

- 969 *Pandemis corylana* (Fabr.) — Mersehead RSPB Reserve NX9355 (**73**) 26.vi.2010 — KAN; Baltray Woods N988641 (**H22**) 6.viii.2010 — EO'D; St John's Wood N001560 (**H25**) 31.vii.2010 — KGMB
- 970 *P. cerasana* (Hübner) — Weydale ND147647 (**109**) 11.vii.2010 — A. McBay *per* MRY; St John's Wood M996563 (**H25**) 18.vi.2010 — KGMB
- 971 *P. cinnamomeana* (Treits.) — Feshiebridge NN850045 (**96**) larva on *Tilia cordata* 24.v.2010, moth bred — BPH
- 972 *P. heparana* ([D. & S.]) — Montrose Basin NO691565 (**90**) 12.vii.2010 — P. Brooks *per* MRY; St John's Wood N001560 (**H25**) 31.vii.2010 — KGMB
- 974 *Argyrotaenia ljugiana* (Thunb.) — Painscastle SO160472 (**43**) 31.v.2010, male genitalia det. VFC — PJC & VFC; Warth Hill ND364698 (**109**) 5.vi.10 — N. Money *per* MRY
- 977 *Archips podana* (Scop.) — St John's Wood M996563 (**H25**) 18.vi.2010 — KGMB
- 980 *A. xylosteana* (Linn.) — Lochdar, South Uist NF781463 (**110**) 26.viii.2010 — C. Johnson *per* MRY
- 981 *A. rosana* (Linn.) — N of Cardona NN6901 (**87**) 26.vi.2010, det. KPB — E. Fuentes-Montemajor *per* KPB
- 988 *Aphelia viburnana* ([D. & S.]) — Claonaig NR8655 (**101**) 27.vi.2010 — SEM; Kilkelly M442922 (**H26**) 19.vi.2010 — KGMB
- 991 *Clepsis senecionana* (Hübner) — St John's Wood M995563 (**H25**) 20.v.2010 — KGMB
- 993 *C. spectrana* (Treits.) — Montrose Basin NO691565 (**90**) 2.viii.2010 — P. Brooks *per* MRY; St John's Wood M996563 (**H25**) 18.vi.2010 — KGMB
- 994 *C. consimilana* (Hübner) — SW of Howfield NT0095 (**87**) 24.vii.2010, det. KPB — E. Fuentes-Montemajor *per* KPB; Aberchirder NJ6252 (**94**) 24.vii.2010 — R. Smith *per* MRY
- 998 *Epiphyas postvittana* (Walk.) — Eyemouth NT941646 (**81**) 27.x.2010 — B. Prater *per* MRY; Ballyconry M220085 (**H9**) 30.v.2010 — KGMB
- 1000 *Ptycholoma lecheana* (Linn.) — Claonaig NR8655 (**101**) 27.vi.2010 — SEM
- 1001 *Lozotaeniodes formosanus* (Gey.) — Cayton TA0682 (**62**) 8.vii.2010 — P.J. Dunn *per* HEB
- 1002 *Lozotaenia forsterana* (Fabr.) — Eyemouth NT941646 (**81**) 23.vii.2010 — B. Prater *per* MRY; Castlerea M663799 (**H25**) 19.vi.2010 — KGMB
- 1006 *Epagoge grotiana* (Fabr.) — Clett Cottage Barrock ND262711 (**109**) 15.viii.2010 — M. Legg *per* MRY
- 1008 *Philedone gerningana* ([D. & S.]) — Anstey Money Common SS898290 (**4**) several 12.vii.2010; North Molton Ridge SS772323 (**4**) a few 12.vii.2010 — SDB & RJH; Upper Rochford SO643667 (**37**) 2.vii.2010 — D. Arnold *per* ANBS; Chester-le-Street NZ2751 (66) 11.vii.2010, first VC record since 1873 — K. Dover *per* TJB
- 1010 *Ditula angustiorana* (Haw.) — Auchenskeoch NX9059 (**73**) 2.vii.2010 — KAN; Claonaig NR8655 (**101**) 26.vi.2010 — SEM
- 1011 *Pseudargyrotoza conwagana* (Fabr.) — Hopetoun House NT0978 (**84**) 20.vi.2010 — KPB
- 1020 *Cnephasia stephensiana* (Doubled.) — SW of Howfield NT0095 (**87**) 24.vii.2010, det. KPB — E. Fuentes-Montemajor *per* KPB
- 1022a *C. pumicana* (Zell.) — Send TQ0554 (**17**) to light 12.vii.2010, genitalia det. GAC — A.V. Kingston *per* JP

- 1023 *C. genitalana* P. & M. — Trench Wood SO927590 (**37**) 2.viii.2008, genitalia det. — O. Wadsworth *per* ANBS
- 1033 *Tortrix viridana* (Linn.) — Fordell Firs NT141860 (**85**) 26.vi.2010 — DWWD; St John's Wood M996563 (**H25**) 18.vi.2010 — KGMB
- 1035 *Acleris bergmanniana* (Linn.) — Aberchirder NJ6252 (**94**) 24.7.2010 — R. Smith *per* MRY;
- 1038 *A. laterana* (Fabr.) — Montrose Basin NO691565 (**90**) 7.x.2010 — P. Brooks *per* MRY; Dunbeath Strath ND153305 (**109**) 14.viii.2010 — N. Money *per* MRY; South Glendale, South Uist NF791153 (**110**) 14.viii.2010 — J. Kemp *per* MRY
- 1039 *A. comariana* (L. & Z.) — Cors y Llyn SO0155 (**43**) one imago and many larvae on *Potentilla palustris* 2.viii.2010, moths bred — PJC, VFC, NRL & JRL
- 1041 *A. sparsana* ([D. & S.]) — Dalendrein, Stroncheggan NN070721 (**97**) 28.ix.2010 — JC; Tramore S578014 (**H6**) 15.viii.2004, genitalia det. KGMB — TB
- 1042 *A. rhombana* ([D. & S.]) — Gramsdale, Benbecula NF819555 (**110**) 15.viii.2010, confirms old record with no details — J. Kemp *per* MRY
- 1043 *A. aspersana* (Hübner.) — St John's Wood M994563 (**H25**) 14.viii.2010 — KGMB
- 1044 *A. ferrugana* ([D. & S.]) — Builth Road SO023532 (**43**) 16.iii.2010, male genitalia det. VFC — B. Jenkins *per* PJC & VFC; Darnaway Forest NJ003529 (**95**) 7.ix.2010 — P. Millard *per* MRY
- 1048 *A. variegana* ([D. & S.]) — Montrose Basin NO691565 (**90**) 7.x.2010 — P. Brooks *per* MRY; St John's Wood M994563 (**H25**) 14.viii.2010 — KGMB
- 1051 *A. logiana* (Cl.) — Siccaridge Wood SO9303 (**33**) larva on *Betula* sp. 24.viii.2010, moth emerged pre-28.ix.2010 — G.H.J. Meredith *per* RGG; Whichford Wood SP29933425 (**38**) 17.iv.2010, male genitalia det. — M. Kennard *per* NJS; Broadholme SK897742 (**53**) 27.x.2009, genitalia det. — MJG; Linwood Warren TF136874 (**54**) 18.ix.2009, genitalia det. — C. Smith *per* MJG; Goole SE7223 (**63**) 17.vii.2010, genitalia det. HEB — P. Kendall *per* HEB
- 1053 *A. hastiana* (Linn.) — Tramore S578014 (**H6**) 12.iv.2007 — TB
- 1054 *A. cristana* ([D. & S.]) — Pont-ar-dulas SN9453 (**42**) 10.xii.2010 — H.G.Parker *per* NRL; Builth Road SO023532 (**43**) 9.iii.2010, det. PJC — B. Jenkins *per* PJC & VFC; Eshott (South Farm) NZ212978 (**67**) 5.iv.2010 — M.S. Hodgson *per* TJT; Swarland NU163035 (**68**) 6.iv.2010 — A. Fairclough *per* TJT
- 1059 *A. abietana* (Hübner.) — Sourhope NT846202 (**80**) in RIS trap 9-16.ix.2009, genitalia det. — RMP
- 1062 *A. emargana* (Fabr.) — Montrose Basin NO691565 (**90**) 4.ix.2010, genitalia det. — P. Brooks *per* MRY; St John's Wood M993564 (**H25**) 1.viii.2010 — KGMB
- 1067 *Celypha cespitana* (Hübner.) — Sands of Forvie NNR NK0328 (**93**) 23.vi.2010 — MRY; Links of Machrihanish at Westport NR6526 (**101**) 26.vi.2010 — SEM
- 1073 *Olethreutes schulziana* (Fabr.) — Mountallen G952134 (**H25**) 2.viii.2010 — KGMB
- 1075 *O. micana* ([D. & S.]) = *olivana* (Treits) — Derrynaneal R544833 (**H9**) 22.vii.2010, genitalia det. — KGMB
- 1079 *Piniphila bifasciana* (Haw.) — The Raven T112265 (**H12**) 17.vii.2010 — EO'D
- 1080 *Olethreutes arcuella* (Clerck) — Icart, St Martin, Guernsey WV316743 (**113**) 2.vii.2010 — PHS *per* PDMC
- 1082 *Hedya pruniana* (Hübner.) — St John's Wood M996563 (**H25**) 18.vi.2010, genitalia det. — KGMB
- 1083 *H. nubiferana* (Haw.) — St John's Wood M996563 (**H25**) 18.vi.2010 — KGMB
- 1084 *H. ochroleucana* (Fröl) — Nosterfield NR SE2779 (**65**) 28.vi.2010 — CHF, J.C. Warwick & S.P. Worwood

- 1089 *Apotomis semifasciana* (Haw.) — Auchencairn NX806514 (**73**) 12.vii.2010 — E.A. MacAlpine *per* KAN; Oakport Demesne G872042 (**H25**) 3.viii.2010 — KGMB; Shancurry G950099 (**H29**) 3.viii.2010 — KGMB
- 1092 *A. turbidana* (Hübner) — St John's Wood M996563 (**H25**) 18.vi.2010 — KGMB
- 1093 *A. betuletana* (Haw.) — Whitmuir Farm NT503266 (**80**) 4.viii.2010 — T. de Bordes *per* MRY; Castleblagh Wood W708979 (**H5**) 25.vii.2010 — KGMB; Derrynaneal R544834 (**H9**) 28.vii.2010 — KGMB; Lough Fergus W806688 (**H25**) 31.vii.2010 — KGMB
- 1096 *A. sauciana* (Fröhl.) — Wyre Forest - Great Bog SO746763 (**37**) 16.vii.2010 — M. Dale *per* ANBS; 1km N. of Cour NR8249 (**101**) 27.vi.2010 — SEM
- 1100 *Endothenia pullana* (Haw.) — Burnham Beeches SU9484 (**24**) in RIS trap 11.vi.2009, male genitalia det. PRH — MVA
- 1104 *E. quadrimaculana* (Haw.) — Claonaig NR8655 (**101**) 25.vi.2010 — SEM; Dunnet Head Site 3 ND203753 (**109**) 16.vii.2010 — N. Money *per* MRY
- 1108 *Lobesia abscisana* (Doubled.) — Auchencairn NX806514 (**73**) 13.vii.2010 — E.A. MacAlpine *per* KAN; Tramore S578014 (**H6**) 26.vii.2010 — TB, **New to Ireland**
- 1109 *L. littoralis* (H. & W.) — Burghead NJ110692 (**95**) 16.vi.2010 — M. Taylor *per* MRY
- 1111a *Bactra lacteana* Caradja — Glen Convinth NH499344 (**96**) 19.vii.2010 genitalia det., conf. JRL — BE
- 1118 *Ancylis uncella* ([D. & S.]) — South Glendale, South Uist NF791153 (**110**) 8.vi.2010 — J. Kemp *per* MRY
- 1119a *A. diminutana* (Haw.) — Oxwich Marsh S5087 (**41**) 30.v. 2009 — B. Stewart & C.M. Manley *per* DJS; St John's Wood M996563 (**H25**) 18.vi.2010, genitalia det. — KGMB, **New to Ireland**
- 1119b *A. subarcuana* (Douglas) — Treshnish, Mull NM3548 (**103**) 13.vi.2010 — P. Anand *per* MRY
- 1128 *A. myrtillana* (Treits.) — Torpoint SX433551 (**2**) 9.vi.2010 — A. Pease *per* LACT; Cinderford SO6613 (**34**) 5.vi.2010 — L. Radcliffe & Parkend SO6108 (**34**) 5.vi.2010 — G. Davis *per* RGG
- 1130 *Epinotia pygmaeana* (Hübner) — Carrickavrantry S554029 (**H6**) 13.iv.2010 — TB
- 1131 *E. subsequana* (Haw.) — Harlestone Heath SP7163 (**32**) 19.v.2010, genitalia det. DVM — P.D. Sharpe *per* DVM; Hurst Green SD6639 (**60**) 28.iv.2010, genitalia det. SMP — D. Lambert *per* SMP
- 1132 *E. subocellana* (Don.) — Penbont, Elan Valley SN912673 (**43**) 10.vi.2010 — NRL, PJC, VFC & R. Hobson; Carrickavrantry S555028 (**H6**) 10.vi.2010 — TB
- 1133 *E. bilunana* (Haw.) — Montrose Basin NO691565 (**90**) 17.vi.2010 — P. Brooks *per* MRY
- 1136 *E. immundana* (F. v. R.) — Craignure, Mull NM723369 (**103**) 29.iv.2010 — A. Kirkham *per* MRY
- 1138 *E. nisella* (Cl.) — North Loch Eynort, South Uist NF790283 (**110**) 13.viii.2010 — C. Johnson *per* MRY; Shancurry G950099 (**H29**) 3.viii.2010 — KGMB
- 1139 *E. tenerana* ([D. & S.]) — St John's Wood N001560 (**H25**) 31.vii.2010, genitalia det. — KGMB
- 1140 *E. nigricana* (H.- S.) — Harlestone Heath SP7163 (**32**) 6.vii.2010 — P.D. Sharpe *per* DVM
- 1142 *E. tedella* (Cl.) — Crossaig NR831515 (**101**) 25.vi.2010 — SEM



- 1143 *E. fraternana* (Haw.) — Oakley Wood SP6111 (**24**) 17.vi.2010, male & female genitalia det. — PRH & D. Wilton *per* MVA; Orton Waterville TL157957 (**31**) 26.vi.2010, genitalia det. BD — J. Newman *per* BD
- 1144 *E. signatana* (Dougl.) — Llanfyllin SJ157210 (**47**) 5.viii.2010, genitalia det. ANG — M.D. Haigh *per* PRW
- 1144a *E. granitana* (H.-S.) — Marlow Bottom SU9585 (**24**) 25.v.2010 — A. Bassett *per* MVA
- 1145 *E. nanana* (Treits.) — Orton Waterville TL157957 (**31**) 27.vi.2010, genitalia det. BD — J. Newman *per* BD
- 1146 *E. rubiginosana* (H.-S.) — Llanddewi SO104686 (**43**) 23.vi.2010 — I. & R. Standen *per* PJC & VFC
- 1150 *E. abbreviana* (Fabr.) — Tramore X569993 (**H6**) 12.vi.2007 — TB
- 1151 *E. trigonella* (Linn.) — Wadland Down Plantation, Ashbury (**4**) one at light 4.ix.2010 — R. Wolton *per* RJH; Rathclooney R422835 (**H9**) 2.ix.2010 — KGMB; Mountallen G948134 (**H25**) 2.viii.2010 — KGMB
- 1152 *E. maculana* (Fabr.) — Hardy Gang Wood TF094749 (**54**) 22.x.2009, genitalia det. MJG — C. Dobson *per* MJG
- 1153 *E. sordidana* (Hübner.) — Castle Wood, Caerlaverock NY0265 (**72**) 8.x.2010, det. JC — KAN; Rossinver G934483 (**H29**) 25.ix.2010, det. KGMB — A. Tyner *per* KGMB; Correl Glen H075544 (**H33**) 25.ix.2010, genitalia det. KGMB — C. Osthoff & F. Wilson *per* KGMB, **Second and third Irish records**
- 1155 *E. brunnichana* (Linn.) — Raheen Wood R641828 (**H9**) 28.vii.2010, genitalia det. — KGMB; St John's Wood N001560 (**H25**) 31.vii.2010, genitalia det. — KGMB
- 1157 *Crociosema plebejana* (Zell.) — Skelton NZ6619 (**62**) 24.vii.2010, genitalia det. HEB — D. Money *per* HEB
- 1159 *Rhopobota naevana* (Hübner.) — Whitmuir Farm NT492264 (**79**) 13.viii.2010 — T. de Bordes *per* MRY
- 1161 *R. stagnana* ([D. & S.]) — Eaton Ford TL1760 (**30**) 24.vii.2010, genitalia det. K. Royles — A.A. Lawrence *per* DVM
- 1162 *R. myrtillana* (H. & W.) — Carrickavrantry S552029 (**H6**) 17.vi.2010 — TB
- 1160 *Acroclita subsequana* (H.-S.) — Grain TQ8876 (**16**) 24.vii.2008, det. DJLA — A.G.J. Butcher *per* DJLA
- 1163 *Zeiraphera ratzeburgiana* (Ratz.) — Hare Moss NT2157 (**83**) 15.vi.2010 — KPB; Claddach Plantation, South Uist NF7773 (**110**) 1.viii.2010 — C. Johnson *per* MRY; Mountallen G948134 (**H25**) 2.viii.2010 — KGMB
- 1164 *Z. rufimitrana* (H. – S.) — Storrington TD078142 (13) 10.vii.2010, genitalia det. — RMP
- 1165 *Z. isertana* (Fabr.) — St John's Wood N001560 (**H25**) 31.vii.2010, genitalia det. — KGMB
- 1168 *Gypsonoma sociana* (Haw.) — Laurencekirk NO683696 (**91**) 17.vi.2010 — B. Hammond *per* MRY
- 1170 *G. oppressana* (Treits.) — Framwellgate Moor NZ2644 (**66**) 30.vi.2010 — TJB
- 1174 *Epiblema cynosbatella* (Linn.) — East Barcloy NX8754 (**73**) 21.vi.2010 — R. Sutcliffe *per* KAN
- 1175 *E. uddmanniana* (Linn.) — Chippermere Point, Luce Bay NX2947 (**74**) 23.vii.2010, det. KPB — R. & B. Mearns *per* KAN
- 1176 *E. trimaculana* (Haw.) — Broubster Forest ND0059 (**109**) 15.vi.2010 — M. Legg *per* MRY; St John's Wood M996563 (**H25**) 18.vi.2010, genitalia det. — KGMB

- 1178 *E. roborana* ([D. & S.]) — Chippermere Point, Luce Bay NX2947 (**74**) 23.vii.2010, det. KPB — R. & B. Mearns *per* KAN; Tramore Burrow S617004 (**H6**) 16.vii.2006, genitalia det. KGMB — TB
- 1184 *E. scutulana* ([D. & S.]) — Weydale ND147647 (**109**) 24.vi.2010 — A. McBay *per* MRY
- 1187 *E. costipunctana* (Haw.) — Llanymynech Rocks SJ2621 (**47**) 4.vii.2010 — SDB & RJH; Monee East W603941 (**H5**) 2.vi.2010 — KGMB
- 1207 *Clavigesta purdeyi* (Durr.) — Zeal Monachorum SS719039 (**4**) at light 15.viii.2010 — SDB
- 1212 *Rhyacionia pinivorana* (L. & Z.) — Crossaig NR831515 (**101**) 25.vi.2010 — SEM; Claddach Plantation, South Uist NF7773 (**110**) 1.viii.2010 — C. Johnson *per* MRY
- 1216 *Enarmonia formosana* (Scop.) — Anstruther NO563032 (**85**) 4.vi.2010 — A-M. Smout *per* DWWD
- 1219 *Lathronympha strigana* (Fabr.) — near Rubha na Guailne NG69024569 (**105**) larvae in spun leaves of *Hypericum* sp. 17.v.2010, moths bred — RJH
- 1221 *Strophedra weirana* (Dougl.) — Danes Dyke TA2169 (**61**) 9.vii.2010, det. HEB — I. Marshall *per* HEB
- 1225 *Pammene obscurana* (Steph.) — Pilmoor Wood SE46763 (**62**) 20.vi.2010 — T.A. Box *per* HEB
- 1227 *P. giganteana* Peyerimhoff — Shabbington Wood SP6210 (**24**) 6.iv.2010, male genitalia det. PRH — D. Wilton *per* MVA
- 1228 *P. argyrana* (Hübner) — Craignure, Mull NM723369 (**103**) 18.v.2010 — A. Kirkham *per* MRY
- 1228a *P. ignorata* Kuzn. — Cheddington ST4907 (**5**) 2.vii.2010, female genitalia det. JAMcG; Puddletown SY7695 (**9**) 1.vii.2010, genitalia det. PHS — H. Wood Homer *per* PHS; Cheddington Woods ST4907 (9) 2.vii.2010, genitalia det. JAMcG — M. Hammond *per* PHS
- 1230 *P. suspectana* (L. & Z.) — Sidney Wood TQ0133 (**17**) to light 23.vi.2010, genitalia det. MVFC — M.C. Townsend *per* JP
- 1234 *P. regiana* (Zell.) — Galashiels NT484363 (**79**) 30.vi.2010 — M. Lindsay *per* MRY
- 1236 *P. fasciana* (Linn.) — Claonaig NR8655 (**101**) 26.vi.2010 — SEM
- 1238 *P. ochsenheimeriana* (L. & Z.) — Cheddington ST4907 (**5**) 2.vii.2010, female genitalia det. JAMcG; Eshott (South Farm) NZ212978 (**67**) 31.v.2010 — M.S. Hodgson *per* TJT
- 1272 *P. aurana* (Fabr.) — Tramore X569991 (**H6**) 18.vi.2010 — TB
- 1240 *Grapholita caecana* (Schlög.) — Sherborne St John SU6255 (**12**) 21.vi.2010, det. JC — N.J. Montegriffo *per* MJW
- 1241 *G. compositella* (Fabr.) — Druridge Pools NZ273968 (**67**) 18.v.2010 — A. Fairclough *per* TJT; Foveran Dunes NK0024 (**92**) 23.vi.2010 — MRY; Stamullen O182664 (**H22**) 30.v.2010 — EO'D
- 1242 *G. internana* (Guen.) — Greatmoor SP7022 (**24**) adults on *Ulex europaeus* 28 v. 2010, genitalia det. PRH — D. Wilton *per* PRH; Flixton SJ7393 (**59**) 28.v.2010 — K. McCabe *per* SMP
- 1245 *G. janthinana* — Bishop Middleham Quarry NR NZ3332 (**66**) 25.vi.2009 — TJB
- 1246 *G. tenebrosana* (Dup.) — Orton Waterville TL157957 (**31**) 30.vi.2010, genitalia det. BD — J. Newman *per* BD; Carrickavrantry S551018 (**H6**) 11.vii.2010 — TB
- 1247 *G. funebrana* (Treits.) — Port of Cunan NX416363 (**74**) 21.vii.2006, det. KPB — R. Mearns et al. *per* MRY, **New to Scotland**



# SOCIETY MATTERS



## BIG SOCIETY

As a non-partisan organisation (other than being in favour of insects and their conservation) we are intrigued to note that the 'Big Society' concept touted by one of the UK political parties is now being reclaimed by its main rival, who says that it was originally theirs! Meanwhile, as a relatively Small Society, we are still trying to puzzle out what it might all mean.

We are of course always on the lookout for helpers and volunteers. In particular, as our Hon. Treasurer will be standing down in six months' time, we would be very interested to hear from anyone who might like to take over that role (please see enclosed notice). Some knowledge of adding up, subtraction and long division would be advantageous. Knowing what 'Big Society' means is not a requirement. Expressions of interest should be emailed to [secretary@amentsoc.org](mailto:secretary@amentsoc.org) in the first instance.

## SUBSCRIPTIONS 2012

A key aspect of running the AES is determining the level of the membership subscriptions each year. Long standing subscribers to the *Record* will recall that we were able to reduce the subscription rate by £3 per annum when the journal became part of the AES in 2009. We continue to try to keep membership subscriptions as low as we can, while ensuring that the periodicals pay for themselves and do not drain our limited capital resources

The Registrar is pleased to announce that the membership subscriptions for the coming year, 2012 (which are now due – please see the yellow insert that accompanies this issue of your periodicals) once again **remain unchanged**. Given that all our periodicals – the *Bug Club Magazine*, the *AES Bulletin* and the *Entomologist's Record* – are published six times a year, and considering our growing list of benefits available to all members (see list below) we think this is excellent value.

By 2013 there will have been substantial increases in both printing and postal costs since the subscription rates were set for 2009, so we will need to review our membership fees for that calendar year (i.e. the year after next). This does not of necessity mean that individual membership fees for 2013 will increase, but some adjustment to how we produce the journals, and to postal rates, *might* be necessary at that time.

In the meantime, please renew your membership for 2012 NOW at the current rate (people who pay by standing order do not need to do anything, of course) and enjoy another year of membership of your Wonderful Society.

## AES MEMBERSHIP BENEFITS – A SUMMARY

1. SUPPORTING ENTOMOLOGY – The AES is a charity, run by volunteers. Your membership fees and donations represent the major part of our funding, and go towards our work of promoting the study of insects and ensuring that an amateur viewpoint is represented in invertebrate conservation matters.

AES public benefits include two moderated forums which are open to all:

- Bug Club Forum <http://tech.groups.yahoo.com/group/bugclub/>
  - Lepidoptera Breeding Forum [http://tech.groups.yahoo.com/group/Breeding\\_UK-Leps/](http://tech.groups.yahoo.com/group/Breeding_UK-Leps/).
- We also offer awards to encourage insect conservation (the Cribb Award) and educational projects (the Michael Majerus Grant).

2. PERIODICALS – in addition to their choice of AES periodical, members receive: *INVERTEBRATE CONSERVATION NEWS* three times per year.

*THE AES NEWSLETTER* exclusively for members, includes news, events and wants & exchange advertisements (placing an advert is free). Sign up to the Newsletter at the website: <http://www.amentsoc.org/newsletter/signup>

(If you do not have email please write to AES Newsletter at PO Box 8774, London SW7 5ZG to obtain a postal copy).

3. MEMBERS ONLY AREAS on the AES ([www.amentsoc.org](http://www.amentsoc.org)) and the *Entomologist's Record* ([www.entrecord.com](http://www.entrecord.com)) websites provide access to back issues, among other services.

4. AES MEMBER DISCUSSION FORUM <http://tech.groups.yahoo.com/group/aes/>

5. NETWORKING & EVENTS include:

- The Oxford University Young Entomologists' Day each February
- The Members' Day and AGM each April
- The Oxford University Museum of Natural History annual visit each September
- Other events organised throughout the year (e.g. in August 2012 we have a residential 'Bugathlon' at Wytham Woods Nature Reserve, in-between the Olympics and the Paralympics)

6. EXHIBITION AND LITERARY AWARDS

- ANSORGE AWARD for the best junior member exhibit at the annual exhibition
- BRADFORD AWARD for the best exhibit by an adult member
- HAMMOND AWARD for the best article in the AES Bulletin
- GARDINER AWARD for the best Bug Club Magazine article by a junior member

7. MEMBER DISCOUNTS

- 30% off AES publications
- 25% discount on the first year of Society of Biology membership
- 30% off Royal Entomological Society publications

8. ACCESS TO AFFILIATE EVENTS

- Full access to Royal Entomological Society library and events
- Free access to the Entomology section of the Devonshire Association
- Conchological Society of Great Britain & Ireland events
- Quekett Microscopical Club events
- Wildlife Gardening Forum membership
- Access to events of the Selborne Society at Perivale Wood Nature Reserve



## DATA PRIVACY STATEMENT

All personal information supplied to the Amateur Entomologists' Society is treated in accordance with UK legal requirements for data protection. The Society will not divulge personal information to any third party, except under legal obligation or with the express permission of the owner of the information. Currently, such information is used only for the purposes of administering the Society and the subscriptions that it receives. It could be used to publish subscriber / membership lists, subject to the express permission of each subscriber or member concerned, but there are no plans to publish any such list in the foreseeable future.

## AES MEMBERSHIP RATES 2012

Membership of the Society runs from 1st January to 31st December each year. New members will receive all publications published during the year of enrolment subject to availability, except for those joining on or after 1st October.

Any member joining on or after 1st October will be deemed to have joined for the following year unless he or she specifically requests membership for the current year. If such a request is made, the publications already published that year will be sent with the enrolment confirmation letter and the remaining ones will be sent when they are published. A further membership subscription will be necessary for the following year.

If you have any queries about membership please contact us via the website, [www.amentsoc.org](http://www.amentsoc.org) or PO Box 8774, London SW7 5ZG

### Individual Adult Membership

Membership sub-category	UK	Overseas
<i>Bulletin only</i>	£20.00	£25.00
<i>Entomologist's Record only</i>	£25.00	£30.00
<i>Bug Club Magazine only</i>	£20.00	£25.00

### Individual Bug Club / Junior Membership

Membership sub-category	UK	Overseas
Junior under-18 ( <i>Bug Club Magazine only</i> )	£12.00	£17.00
Junior aged 13-17 ( <i>Bulletin only</i> )	£12.00	£17.00

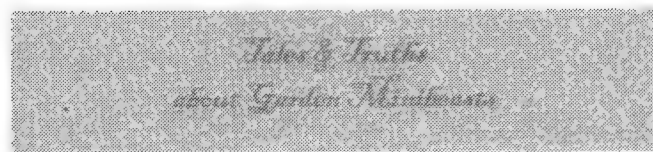
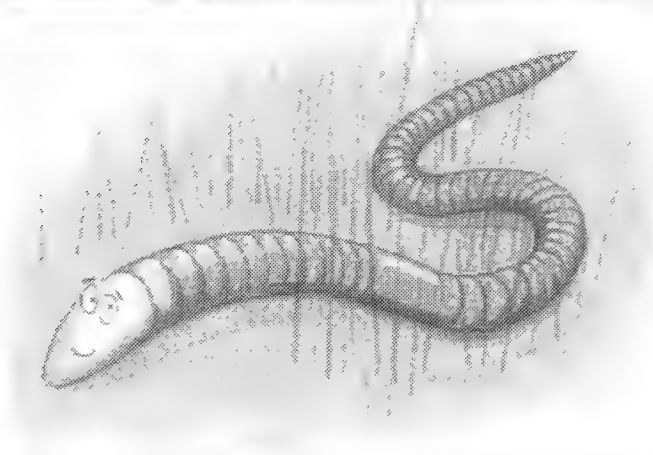
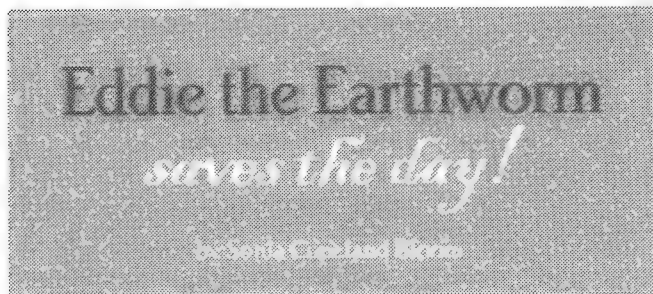
### Family or Combined Membership

Membership sub-category	UK	Overseas
<i>Bulletin &amp; Entomologist's Record</i>	£40.00	£45.00
<i>Bulletin &amp; Bug Club Magazine</i>	£28.00	£33.00
<i>Entomologist's Record &amp; Bug Club Magazine</i>	£35.00	£40.00
<i>Bulletin, Entomologist's Record &amp; Bug Club Magazine</i>	£48.00	£53.00

### Associate / Institutional Membership

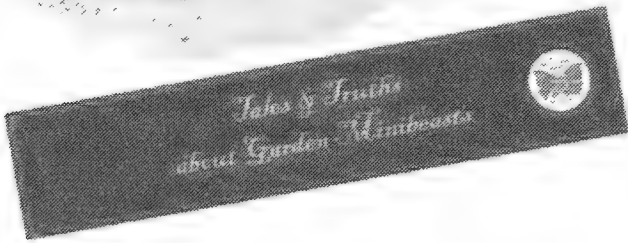
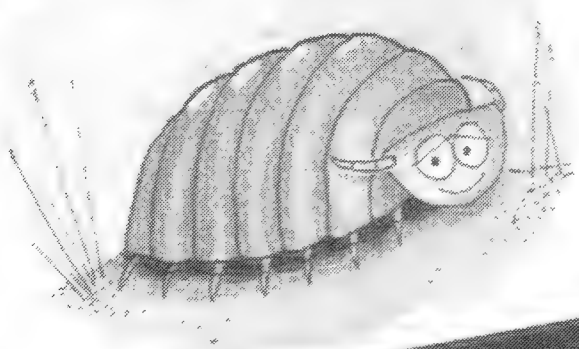
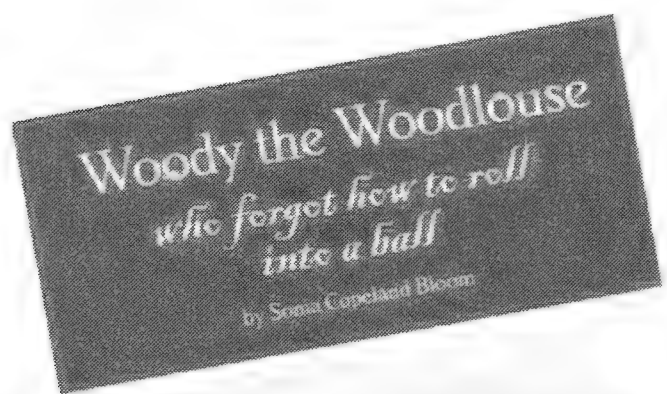
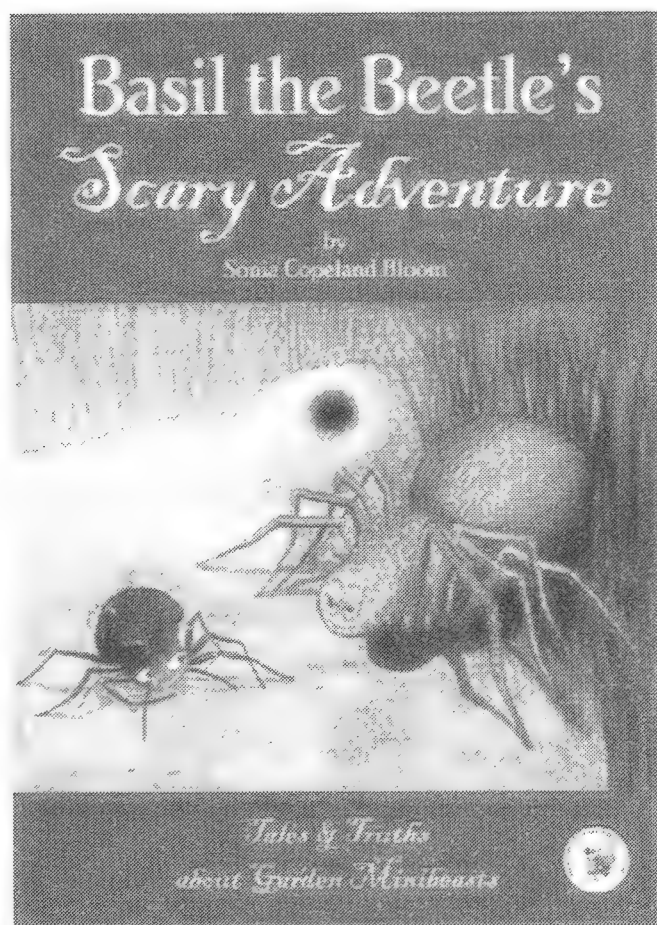
Membership sub-category	UK	Overseas
<i>Bulletin only</i>	£20.00	£25.00
<i>Entomologist's Record only</i>	£50.00	£55.00
<i>Bug Club Magazine only</i>	£20.00	£25.00
<i>Bulletin &amp; Entomologist's Record</i>	£65.00	£70.00
<i>Bulletin &amp; Bug Club Magazine</i>	£28.00	£33.00
<i>Entomologist's Record &amp; Bug Club Magazine</i>	£65.00	£70.00
<i>Bulletin, Entomologist's Record &amp; Bug Club Magazine</i>	£75.00	£80.00

# A new book by Sonia Copeland Bloom



This is the third book in the *Tales and Truths* Series published by the AES, and is about Eddie the Earthworm and his friend Ellie, who turn a problem into a solution and save the day when an important worm gathering threatens to be a disaster!

These books consist of an engaging story about a minibeast supplemented by factual sections, including how to look after them as pets.



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<http://shop.amentsoc.org>

**Members' price £3.50 post free  
(Non-members' price £5.50)**

- 1249 *G. lobarzewskii* (Nowicki) — Weston Colley SU5039 (**12**) 5.vi.2010 — D.G. Green *per* MJW; Chester Park ST6374 (**34**) 12.vi.2010 — N. Jordan-Mellersh *per* RGG; Roath, Cardiff ST1878 (**41**) 17.vi.2010, male genitalia det. DJS — D.R.W. Gilmore *per* DJS
- 1251 *G. jungiella* (Cl.) — Tramore X574000 (**H6**) 23.iv.2010 — TB
- 1252 *G. lunulana* ([D. & S.]) — Risby Warren SE9113 (**54**) 22.v.2010 — CS; Spey Bay NJ3565 (**94**) 3.vi.2010 — R. Leverton *per* MRY
- 1220 *Cydia microgrammana* (Guen.) — Caister Dunes TG528117 (27) 21.v.2010, first VC record for over 100 years — D. Hipperson *per* JRW
- 1257 *C. nigricana* (Fabr.) — Penglaneinon, Elan Valley SN912628 (**43**) 12.vi.2010, genitalia det. PJC — PJC & VFC; Tramore saltmarsh S604010 (**H6**) 12.vi.2010 — TB
- 1258 *C. millenniana* (Adamcz.) — Kingsthorpe SP7463 (**32**) 5.vi.2010 — P.D. Sharpe *per* DVM
- 1259 *C. fagiglandana* (Zell.) — Whitley Bay NZ349723 (**67**) 06.vii.2010, genitalia det. K.W. Reagan — T.C. Sexton *per* TJT; St John's Wood M994563 (**H25**) 14.viii.2010 — KGMB
- 1266 *C. pactolana* (Zell.) — Turville Heath SU7491 (**24**) 5.vi.2010, genitalia det. — PRH
- 1266a *C. illutana* (H.-S.) — Cheddington ST4907 (**5**) 2.vii.2010, genitalia det. JAMcG; Deerleap Wood, Abinger TQ1147 (**17**) to light 2.vii.2010 — D.C. Gardner *per* JP; Dancersend SP8909 (**24**) 25.vi.2010, female genitalia det. — PRH *per* MVA; Worcester-St Johns SO836532 (**37**) 11.vi.2010, genitalia det. — O. Wadsworth *per* ANBS
- 1266b *C. indivisa* (Danilevsky) — Oakley Wood SP6111 (**24**) 4.vi.2010, genitalia prep. PRH, det. B. Goodey — D. Wilton *per* PRH, *Ent. Rec.* **123**: 46-49, **New to the British Isles**
- 1269 *C. conicolana* (Hey.) — Laughton SK8296 (**54**) 22.v.2010 — CS & MJG; Les Effards, St Sampson, Guernsey WV332813 (**113**) 4.vi.2010, det. PHS — M.P. Lawlor *per* PDMC
- 1274 *Dichrorampha alpinana* (Treits.) — Saxilby Flood SK894748 (**53**) 31.v.2009, genitalia det. — MJG; Woodhouse SE781085 (**54**) 15.vi.2009, genitalia det. — C. Smith *per* MJG; Howdon NR NZ340662 (**67**) 24.vi.2010, genitalia det. — K.W. Reagan *per* TJT; Anstruther NO563032 (**85**) 27.vi.2010, genitalia det. KPB — A-M. Smout *per* DWWD; Graig Upper R661117 (**H5**) 29.vi.2010 — KGMB
- 1279 *D. acuminatana* (L. & Z.) — Tramore S578014 (**H6**) 23.v.2010 — TB
- 1281 *D. simpliciana* (Haw.) — Carganamuck H877497 (**H37**) 6.vi.2010, det. BE — K. Murphy *per* ER
- 1287 *D. aeratana* (P. & M.) — Kilkelly M442922 (**H26**) 19.vi.2010, genitalia det. — KGMB

## EPERMENIIDAE

- 478 *Phaulernis fulviguttella* (Zell.) — Staple Fitzpaine ST2417 (**5**) 2.ix.2010 — JAMcG
- 483 *Epermenia chaerophyllella* (Goeze) — Grannaghan M999760 (**H25**) 1.viii.2010 — KGMB

## SCHRECKENSTEINIIDAE

- 485 *Schreckensteinia festaliella* (Hübner) — Spylaw Cottage NT2152 (**78**) larval feeding signs on *Rubus idaeus* 8.viii.2010 — KPB; St John's Wood M998559 (**H25**) 1.viii.2010 — KGMB

## PYRALIDAE

- 1293 *Chrysoteuchia culmella* (Linn.) — Crossaig NR831515 (**101**) 25.vi.2010 — SEM
- 1294 *Crambus pascuella* (Linn.) — Harrow ND282742 (**109**) 28.vi.2010 — N. Money *per* MRY
- 1297 *C. uliginosellus* Zell. — Ayle Lower Bog R544830 (**H9**) 22.vii.2010, genitalia det. — KGMB
- 1298 *C. ericella* (Hübner) — Tynemouth NZ364705 (**67**) 27.vi.2010 — TJT
- 1301 *C. lathoniellus* (Zinck.) — Crossaig NR831515 (**101**) 25.vi.2010 — SEM
- 1302 *C. perlella* (Scop.) — Links of Machrihanish at Westport NR6526 (**101**) 26.vi.2010 — SEM; Grannaghan M999760 (**H25**) 1.viii.2010 — KGMB
- 1303 *Agriphila selasella* (Hübner) — Glasbury SO180390 (**43**) 24.vii.2010, male genitalia det. VFC — PJC & VFC; Hutton Conyers SE3273 (**65**) 2.viii.2010, det. HEB — CHF; Mugdock Loch NS554772 (**86**) 28.vii.2010 — R. Weddle *per* MRY; St John's Wood M994563 (**H25**) 14.viii.2010 — KGMB
- 1309 *A. geniculea* (Haw.) — Saltholme RSPB NZ503232 (**66**) 3.viii.2009, first VC record for over 100 years — J.R. Duffie, A. Wheeldon & T. Collett *per* TJB; South Glendale, South Uist NF791153 (**110**) 14.viii.2010 — J. Kemp *per* MRY
- 1313 *Catoptria pinella* (Linn.) — Claonaig NR8655 (**101**) 27.vi.2010 — SEM; Eochar, South Uist NF781463 (**110**) 19.vii.2010 — C. Johnson *per* MRY
- 1314 *C. margaritella* ([D. & S.]) — West Molesey TQ1368 (**17**) to light 27.vii.2010 — A. Cheeseman *per* JP; Orton Waterville TL157957 (**31**) 1.viii.2010, genitalia det. BD — J. Newman *per* BD; Little Dewchurch SO540321 (**36**) 5.vii.2010 — PK; Rudston TA0967 (**61**) 22.vii.2009 — A.S. Ezard *per* HEB; Macbiehill Moss NT1852 (**78**) 8.viii.2010 — KPB; Barleyhill Bog M313962 (**H26**) 15.viii.2010 — KGMB
- 1316 *C. falsella* ([D. & S.]) — Fallin, Stirling NS836919 (**86**) 22.vi.2010 — B. & H. Dawson *per* MRY; SW of Howfield NT0095 (**87**) 24.vii.2010, det. KPB — E. Fuentes-Montemajor *per* KPB
- 1325 *Platytes alpinella* (Hübner) — Les Effards, St Sampson, Guernsey WV332813 (**113**) 11.viii.2010, det. PHS — M.P. Lawlor *per* PDMC
- 1328 *Schoenobius gigantella* ([D. & S.]) — Bishops Itchington, Bishops Bowl Lakes SP38745867 (**38**) 30.vi.2010 — M. Kennard *per* NJS
- 1333 *Scoparia pyralella* ([D. & S.]) — Montrose Basin NO691565 (**90**) 31.vii.2010 — P. Brooks *per* MRY; South Glendale, South Uist NF791153 (**110**) 25.vi.2010 — J. Kemp *per* MRY
- 1334 *S. ambigualis* (Treits.) — Glen Loth NC943118 (**107**) 15.vi.2010 — K. McCabe *per* MRY; St John's Wood N001560 (**H25**) 31.vii.2010 — KGMB
- 1338 *Dipleurina lacustrata* (Panz.) — Dunnet Forest Site 4 ND224701 (**109**) 28.vii.2010 — Neil Money *per* MRY; Mountallen G952134 (**H25**) 2.viii.2010 — KGMB
- 1336 *Eudonia pallida* (Curt.) — Hempsted SO8218 (**33**) 11.vi.2010 — G.R. Avery *per* RGG
- 1339 *E. murana* (Curt.) — Rossal Cottage NC691037 (**107**) 16.vi.2010 — K. McCabe *per* MRY
- 1340 *E. truncicolella* (Staint.) — Mountallen G952134 (**H25**) 2.viii.2010 — KGMB
- 1341 *E. lineola* (Curtis) — Druidibeg, South Uist NF798387 (**110**) 24.vii.2010 — C. Johnson *per* MRY
- 1343 *E. delunella* (Staint.) — Holme Fen TL203893 (**31**) 28.vii.2010 — M. Lovell *per* BD
- 1344 *E. mercurella* (Linn.) — Montrose Basin NO691565 (**90**) 2.viii.2010 — P. Brooks *per* MRY; Mey Woods East ND292728 (**109**) 20.vii.2010 — M. Legg *per* MRY; Kilkeeran M164726 (**H26**) 16.viii.2010 — KGMB



- 1345 *Elophila nymphaeata* (Linn.) — Ferry Wood, Loch Fleet NH 814 976 (**107**) 15.viii.2010 — A. Masterman *per* MRY; Rackwick, Hoy HY201000 (**111**) 19.vii.2010 — B. Ribbands *per* SG
- 1348 *Parapoynx stratiotata* (Linn.) — Stockton-on-Tees NZ4318 (**66**) 25.vi.2010, det. K. Dover from photograph — J.C. Mason *per* TJB; St John's Wood M996563 (**H25**) 18.vi.2010 — KGMB
- 1350 *Nymphula stagnata* (Don.) — Whitmuir Farm NT501266 (**80**) 30.vi.2010 — T. de Bordes *per* MRY
- 1354 *Cataclysta lemnata* (Linn.) — Bishopton Station NS437705 (**76**) 27.vii.2010 — N. Gregory *per* MRY
- 1357 *Evergestis extimalis* (Scop.) — Saltholme RSPB NZ503232 (**66**) 8.viii.2009 — J.R. Duffie & T. Collett *per* TJB; Tynemouth NZ364705 (**67**) 8.ix.2010 — TJT
- 1358 *E. pallidata* (Hufn.) — Mountallen G948134 (**H25**) 2.viii.2010 — KGMB; Kilkeeran M164726 (**H26**) 16.viii.2010 — KGMB
- 1362 *Pyrausta purpuralis* (Linn.) — Mountallen G955136 (**H25**) 3.viii.2010 — KGMB
- 1365 *P. despicata* (Scop.) — Luffness Links NT4781 (**82**) 18.vii.2010 — KPB
- 1369 *Uresiphita gilvata* (Fabr.) — Nutfield TQ3050 (**17**) 5.x.2010 — R.J. Bartlett *per* JP; Cape Clear Island V954216 (**H3**) by day 13.x.2010 — EO'D
- 1371 *Sitochroa verticalis* (Linn.) — Tynemouth NZ364705 (**67**) 15.vii.2010 — TJT
- 1374a *Sclerocona acutellus* (Eversm.) — West Wight (**10**) five on 21.vi.2010 and six on 19.vii.2010 — J. Halsey *per* SAK-J
- 1375 *Ostrinia nubilalis* (Hübner) — Hutton Conyers SE3273 (**65**) 19.vii.2010 — CHF
- 1376 *Eurrhynx hortulata* (Linn.) — South Glendale, South Uist (**110**) 5.viii.2010 — J. Kemp *per* MRY
- 1377 *Perinephela lancealis* ([D. & S.]) — Kirkby Moor TF224621 (**54**) 1.vii.2009, genitalia det. — R. Labbett *per* MJG
- 1378 *Phlyctaenia coronata* (Hufn.) — Glencaple NX9968 (**72**) 25.vi.2010 — A. Robertson *per* KAN; Chippermere Point, Luce Bay NX2947 (**74**) 23.vii.2010, det. KPB — R. & B. Mearns *per* KAN
- 1379 *Algedonia terrealis* (Treits.) — Fen Bog SE8597 (62) two 2.vii.2010, first Yorkshire record since the 1860s — D. Money & R. Woods *per* HEB.
- 1386 *Opsibotys fuscalis* ([D. & S.]) — Nannerth Fawr SN947715 (**43**) 3.vi.2010 — B. Hedley *per* PJC & VFC; Dunnet Dunes Site 1 ND209700 (**109**) 21.vi.10 — N. Money *per* MRY; St John's Wood M996563 (**H25**) 18.vi.2010 — KGMB
- 1388 *Udea lutealis* (Hübner) — Links of Machrihanish at Westport NR6526 (**101**) larva on *Centaurea nigra* 26.vi.2010 — SEM
- 1390 *U. prunalis* ([D. & S.]) — Galashiels NT484363 (**79**) 11.viii.2010 — M. Lindsay *per* MRY; Strathpeffer NH481581 (**106**) 4.vii.2010 — N. Gregory *per* MRY; Shancurry G950099 (**H29**) 3.viii.2010 — KGMB
- 1397 *Mecyna asinalis* (Hübner) — Bracklesham SZ808974 (**13**) 2.viii.2010 — D. Lee *per* CRP
- 1397a *Diploseustis perieresalis* (Walk.) — Southsea SZ655987 (**11**) 12.ix.2010, det. R. Kendrick & M.J. Sterling from photograph — JRL; Putney TQ2374 (**17**) 13.vii.2010, det. M.R. Honey — R. Arnfield *per* JP
- 1398 *Nomophila noctuella* ([D. & S.]) — Bridgelands NT481304 (**79**) 7.viii.2010 — T. de Bordes *per* MRY
- 1401 *Maruca vitrata* (Fabr.) — Otley (**64**) indoors 15.vi.2010 — H. & A. Barker *per* HEB
- 1402 *Diasemia reticularis* (Linn.) — St Kew SX022770 (**2**) 27.vii.2010 — GMT

- 1403a *Duponchelia fovealis* Zell. — Upper Caldecote TL1645 (**30**) 19.vii.2010 — M. Burgess *per* DVM; Longlevens SO8520 (**33**) 10.ix.2010 — A. Lodge *per* RGG; Richmond (**65**) indoors 14.v.2010 — P. Kipling *per* HEB
- 1404 *Spoladea recurvalis* (Fabr.) — Thundersley (**18**) 12.x.2010 — D. Down, *Atropos* **42**: 85
- 1408 *Palpita vitrealis* (Rossi) — Cleadon NZ3862 (**66**) 10.ix.2010 — P. Hogg *per* TJB; Anstruther NO563032 (**85**) 13.ix.2010 — A-M. Smout *per* MRY
- 1409a *Diaphania perspectalis* (Walk.) — Bishops Stortford TL4821 (**20**) 9.viii.2010 — J. Fish & J. Reeves *per* CWP, *Ent. Rec.* **122**: 203-204; Stoke Poges SU983823 (**24**) 11.vii.2010, det. MSP — S. Coverdale *per* MVA; Stoke Bishop ST5576 (**34**) 8.x.2010 — M. Evans *per* RGG
- 1410 *Agrotera nemoralis* (Scop.) — Southsea SZ655987 (11) 4.vi.2010, first county record since 1946 — JRL
- 1413 *Hypsopygia costalis* (Fabr.) — Bridgelands NT481304 (**79**) 24.vii.2010 — T. de Bordes *per* MRY
- 1421 *Aglossa pinguinalis* (Linn.) — Middletown SJ305121 (**47**) 1.viii.2010 — D. Bent *per* PRW
- 1425 *Galleria mellonella* (Linn.) — Shifnal SJ748071 (**40**) 4.vi.2010 — PEW
- 1426 *Achroia grisella* (Fabr.) — Stamullen O146662 (**H22**) 28.vi.2010 — EO'D
- 1428 *Aphomia sociella* (Linn.) — Craignure, Mull NM723369 (**103**) 21.v.2010 — A. Kirkham *per* MRY; Grannaghan M999760 (**H25**) 1.viii.2010 — KGMB
- 1429 *A. zelleri* (Joann.) — Southsea SZ655987 (**11**) 21.vii.2010 — JRL
- 1432 *Anerastia lotella* (Hübner) — North Gare NZ5327 (66) 22.vi.2009, first VC record for over 100 years — J.R. Duffie & A. Wheeldon *per* TJB
- 1433 *Cryptoblabes bistriga* (Haw.) — Eshott (South Farm) NZ212978 (**67**) 18.vii.2010 — M.S. Hodgson *per* TJT; Mersehead RSPB Reserve (**73**) 26.vi.2010 — KAN; Claonaig NR8655 (**101**) 27.vi.2010 — SEM
- 1439 *Trachycera advenella* (Zinck.) — Bridgelands NT481304 (**79**) 7.viii.2010 — T. de Bordes *per* MRY; Montrose Basin NO691565 (**90**) 18.viii.2010 — P. Brooks *per* MRY; Mountallen G952134 (**H25**) 2.viii.2010 — KGMB
- 1445 *Pempelia formosa* (Haw.) — Shavington SJ713521 (**58**) 3.vi.2010 — R. Benson & T. Rowlands *per* SHH
- 1449 *Elegia similella* (Zinck.) — Angelsey Abbey TL530625 (**29**) 27.vi.2009 — IB
- 1451 *Pyla fusca* (Haw.) — East Lomond Limekiln NO238058 (**85**) 25.vi.2010 — DWWD; Claonaig Wood NR8655 (**101**) 26.vi.2010, genitalia det. MRY — SEM; Derreenargan G934084 (**H25**) 14.viii.2010 — KGMB
- 1451a *Etiella zinckenella* (Treits.) — Weston Colley SU5039 (**12**) 5.x.2010 — D.G. Green *per* MJW
- 1452 *Phycita roborella* ([D. & S.]) — St John's Wood M994563 (**H25**) 31.vii.2010 — KGMB
- 1454 *Dioryctria abietella* ([D. & S.]) — Kirkton NX9782 (**72**) 11.vii.2010 — R. & B. Mearns *per* KAN; Galashiels NT484363 (**79**) 6.viii.2010 — M Lindsay *per* MRY; Dunnet Forest Site 4 ND224701 (**109**) 28.vii.2010 — N. Money *per* MRY; Claddach Plantation, South Uist NF7773 (**110**) 1.viii.2010 — C. Johnson *per* MRY
- 1454b *D. sylvestrella* (Ratz.) — Whitfield Wood SP6439 (**24**) 13.vii.2010, male genitalia det. — PRH & D. Wilton *per* MVA; Kilnsea TA4115 (**61**) 9.vii.2010 — P. A. Crowther *per* HEB.; Burnt Wood, Treeton (**63**) 1.ix.2010 — HEB
- 1462 *Pempeliella dilutella* ([D. & S.]) — Montrose Basin NO691565 (**90**) 17.vi.2010 — P. Brooks *per* MRY; South Glendale, South Uist NF791153 (**110**) 20.vi.2010 — J. Kemp *per* MRY

- 1465 *Nephopterix angustella* (Hübner) — Lund SE9848 (**61**) 7.ix.2010 — M. Coverdale per HEB; Tramore S578014 (**H6**) 3.ix.2010 — TB, *Ent. Rec.* **122**: 266, **New to Ireland**
- 1474 *Ephestia parasitella* Staud. — Llanfyllin SJ157210 (**47**) 22.vi.2010 — M.D. Haigh per PRW; Leighton Moss SD4774 (**60**) 3.vii.2010, genitalia det. — SMP
- 1483 *Phycitodes binaevella* (Hübner) — Hutton Conyers SE3273 (**65**) 22.v.2010, det. HEB — CHF

## PTEROPHORIDAE

- 1493 *Buckleria paludum* (Zell.) — Landford Common SU2518 (**8**) 18.vii.2010, genitalia det. EGS — EGS & MHS
- 1495 *Marasmarcha lunaedactyla* (Haw.) — Holt TG085388 (27) 5.vii.2010, genitalia det. JC, first VC record for over 100 years — G. Follows per JRW
- 1497 *Amblyptilia acanthadactyla* (Hübner) — Glen Mark NO4381 (**90**) 12.iv.2010 — P. Brooks per MRY
- 1502 *Platyptilia isodactylus* (Zell.) — Commins Coch SH845028 (**47**) 18.ix.2010, det M.D. Haigh — PRW
- 1503 *P. ochrodactyla* ([D. & S.]) — Instow SS482322 (**4**) larvae on *Tanacetum vulgare* 21.vi.2010 moth bred. Probably the first confirmed VC4 record. The only other was from Lundy, where the foodplant does not occur, published in 1877 — SDB
- 1508 *Stenoptilia bipunctidactyla* (Scop.) — Dunbeath Strath ND153305 (**109**) 27.vii.2010 — N. Money per MRY; Knockacullata W650938 (**H5**) 20.ix.2010 — KGMB; Knockawarriga R162224 (**H8**) 9.ix.2010 — KGMB
- 1509 *S. pterodactyla* (Linn.) — Links of Machrihanish at Westport NR6525 (**101**) 26.vi.2010 — SEM
- 1518 *Ovendenia lienigianus* (Zell.) — Fen Bog SE8597 (**62**) 2.vii.2010 det. HEB — D. Money & R. Woods per HEB; Billingham NZ4621 (**66**) 30.vi.2010, genitalia det. HEB — R. Woods per TJB
- 1519 *Euleioptilus carphodactyla* (Hübner) — Nosterfield NR SE2779 (**65**) 5.vi.2010, male genitalia det. CHF — J.C. Warwick, D.M. Bowes per CHF
- 1524 *Emmelina monodactyla* (Linn.) — South Glendale, South Uist NF 791 153 (**110**) 24.x.2010 — J. Kemp per MRY

## Corrections

to the 1993 Review

- 23 *Ectoedemia argyropeza* (Zell.) — delete (**H4**) and substitute (**H5**)
- 504 *Coleophora lusciniapennella* (Treits.) — delete (**H30**) and substitute (**H29**)

to the 2008 Review:

- 1252 *Grapholita lunulana* ([D. & S.]) — Tramore Burrow S612003 (**H6**) 1.vi.2006 — TB  
The specimen has been re-examined, and the genitalia dissected by KGMB, and has now been identified as:
- 1253 *Grapholita orobana* (Treits.) **New to Ireland**

to the 2009 Review:

- 1374a *Sclerocona acutellus* (Eversmann) — the date should read 29.vi.2009, not 2006

***Pandivirilia melaleuca* (Loew, 1847) (Dipt.: Therevidae) new to Buckinghamshire**

Two dead females of this species were found at the edge of Hollybush Wood (O. S. grid reference TQ 001828), within the Rowley Woods complex, in south Buckinghamshire (vice-county 24), on 5 August 2010, during survey work carried out for Buckinghamshire County Council. The flies were found in a large plastic barrel on the edge of the wood that had filled up with water, on which were floating insects in varying stages of decay. Some of these were retrieved by us, including these two individuals of *Pandivirilia*. Although not in pristine condition, a soak in ethyl acetate removed the greasing on the bodies of the specimens, restoring the body markings and allowing identification. The specimens were exhibited at the 2010 annual exhibition of the British Entomological and Natural History Society.

*Pandivirilia melaleuca* is listed as Red Data Book 1: Endangered, and until recently was known only from Windsor Forest, although larvae thought to be this species had been found at a few other sites (Stubbs and Drake, 2001. *British soldierflies and their allies*. BENHS). More recently, it has been confirmed from Gloucestershire (Alexander, 2007. *Dipterists Digest* 14(2): 87-89) and Worcestershire (McGee, 2010. *British Journal of Entomology and Natural History* 23(1): 56-57).

The Rowley Woods complex includes a woodland and farmland, with mature and over-mature trees along field boundaries and at the edges of the woods. These have been shown to support an exceptional range of saproxylic species (Telfer and Harvey, 2011. *Invertebrate surveys of the outlying parts of Rowley Woods, Buckinghamshire in 2009 and 2010*. Unpublished report to Buckinghamshire County Council). Rowley Woods is adjacent to Black Park Country Park and near to Langley Park, both of which are known to support nationally important saproxylic assemblages. — MARTIN C. HARVEY, Evermor, Bridge Street, Great Kimble, Aylesbury HP17 9TN (E-mail: kitenetter@googlemail.com) & MARK G. TELFER, 10 Northall Road, Eaton Bray, Dunstable LU6 2DQ (E-mail: mark@carabids.fsnet.co.uk).

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***RHIGOGNOSTIS ANNULATELLA* (CURTIS, 1832)  
(LEP.: YPONOMEUTIDAE) FOUND INLAND AND ON TWO NEW  
LARVAL FOODPLANTS, AND A CONSIDERATION OF PUBLISHED  
LARVAL DESCRIPTIONS**

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### **Abstract**

Records are given of two inland localities for *Rhigognostis annulatella* (Curtis, 1832), Yponomeutidae, hitherto believed to be only a coastal species in the British Isles. Two new larval foodplants, *Arabidopsis petraea* and *Cardamine hirsuta*, are given and published descriptions of the larva are considered.

**Key words:** Lepidoptera, Yponomeutidae, *Rhigognostis annulatella*, foodplants, *Arabidopsis petraea*, *Cardamine hirsuta*, larval description.

### **Introduction**

Until now *Cochlearia officinalis* appears to be the only recognised larval foodplant of *Rhigognostis annulatella* in the British Isles. In 2010 and 2011 larvae were found feeding on *Arabidopsis petraea* and *Cardamine hirsuta* at three localities in Scotland. Moths were reared and identification was confirmed by a genitalia preparation. Although generally considered to be a coastal species, the record from *Arabidopsis petraea* is just over 3 km inland and one of the records from *Cardamine hirsuta* is just under 13 km inland.

The larvae did not entirely agree with the most recent published larval description in the British literature (Agassiz, 1996) which is very brief, 'Head and body green with conspicuous black spots'. According to our observations the head is not green, but green or pale brown with numerous dark brown and black marks and the pinacula (spots) do not seem to us to be conspicuous to the naked eye. Our observations appear to accord with earlier published descriptions in the British literature.

### **Literature records of larva and foodplants**

It appears that the first British larval description of *Rhigognostis annulatella* was by Gregson (1873) as follows: 'Length about half an inch; attenuate towards both extremities; head and second segment irrorated with fine dots; general colour light green; dorsal region darker; spiracular region lighter.' He states that the active larva feeds in June on *Cochlearia*, species unstated, on the seeds and pods when young and when older on the fleshy leaves, usually from the underside.

Richardson (1891) gives a more detailed account. He records that 'The young larva is very like the older ones, but, perhaps, a little more brownish in colour, and more transparent.' He states that when nearly fully fed:

'The head is green, with a very slight shade of brown, and is much covered with small blackish marks of irregular shape, which are placed in four more or less distinct lines on each side of the middle, in addition to the usual spots, which are intense black. The 2nd segment has also numerous small blackish markings, not as large as those on the head. The body is entirely green, with the exception of the usual warts and bristles, which are jet-black and very conspicuous, so that the larva presents a striking and somewhat formidable appearance under the microscope, particularly about the head and 2nd segment. When full-fed the larva becomes rather more opaque in appearance ...'

The next year (Richardson, 1892) he gives the following account of the early stages:

'Last year [1891] I found the larva feeding on scurvy grass (*Cochlearia officinalis*), and as I succeeded in breeding some of the imagines I had an opportunity of noticing the habits of the larvae. I have not observed the egg, which is no doubt laid on the buds of the *Cochlearia* in April or May by the hibernated female. The larva is hatched about the middle of May, and begins at once to feed inside the petals of the flower, drawing them together with a few silken threads. It is then very small and very active, green in colour with minute black spots, each emitting a black bristle, the head especially presenting a remarkable appearance under the microscope, owing to the number of black spots and bristles on the green ground colour. It does not alter much in appearance during its larval life, but retains to the end the characteristic points I have mentioned ...'

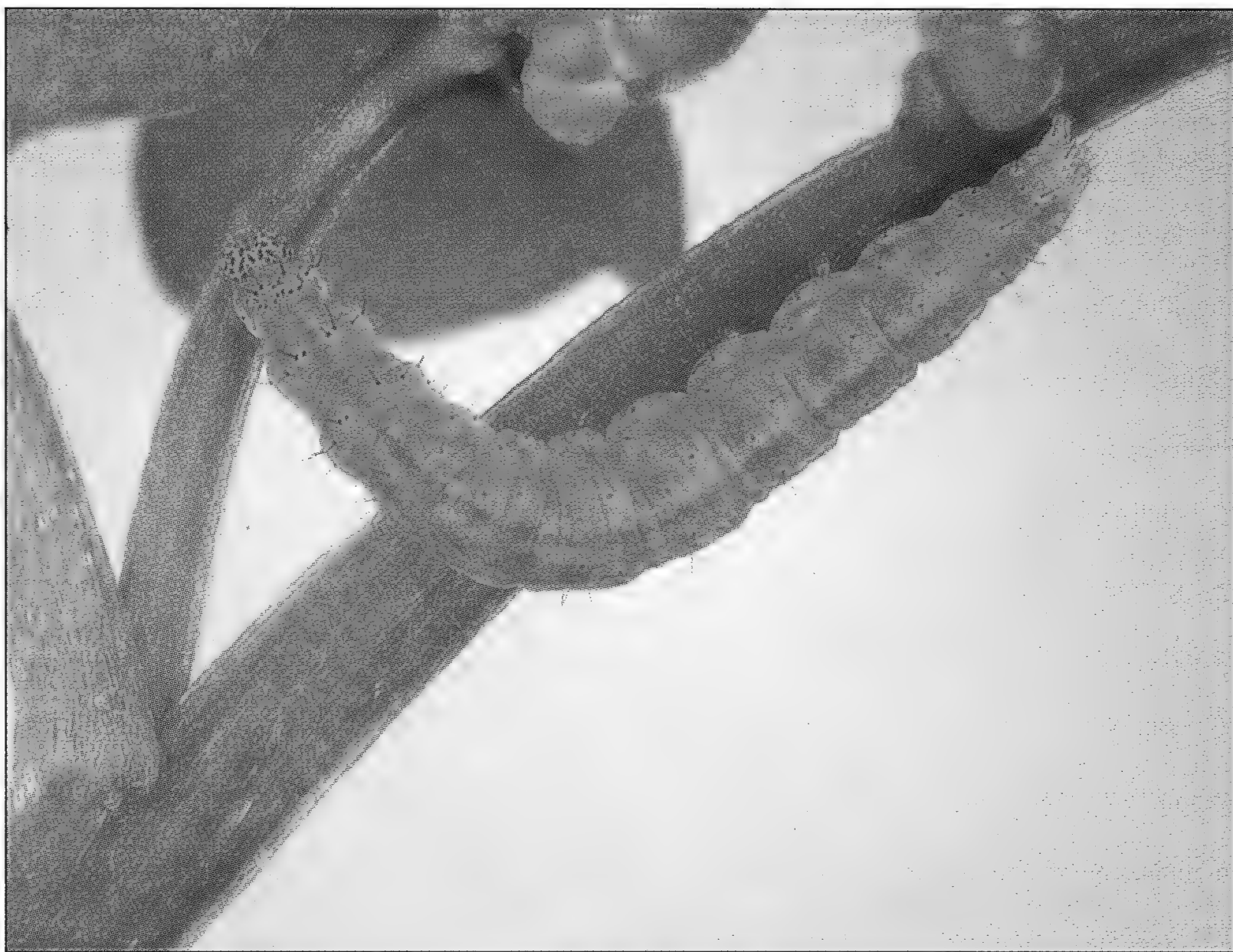
Three years later, an un-numbered plate between pages 80 and 81 of the 1895 *Proceedings of the Dorset Natural History and Antiquarian Field Club* Volume 16 has illustrations of a larva, a flower stem of '*Cochlearia*' showing larval feeding and an adult, all drawn by Richardson's wife. The drawing of the larva accurately reflects Richardson's 1892 description.

Agassiz (1996) gives the foodplant in the British Isles as *Cochlearia officinalis*.

In his review of the genus *Rhigognostis* Zeller, 1857, Kyrki (1989) gives no larval description of any species. He states that *Cochlearia officinalis* and *Cochlearia danica* are usually reported as foodplants of *R. annulatella*, and that in addition *Cheiranthus* (now *Erysimum*) is reported from Germany and *Alliaria* from Sweden. All these are in the Brassicaceae.

### Larvae found in 2010 and 2011

On 21 April 2010 a very small larva was found on *Arabidopsis petraea*, previously known as *Arabis petraea* and *Cardaminopsis petraea*, at Blaven, Isle



**Plate 29.** Larva of *Rhigognostis annulatella*. Photograph © R. J. Heckford.

of Skye, North Ebudes (V.C. 104) and a moth was reared on 27 May 2010. Blaven is a mountain just over 3 km from the coast and the larva was at an elevation of about 450 m.

On 12 May 2010 several larvae were found both on *Cochlearia officinalis* and *Cardamine hirsuta* at East Neap, Fetlar, Shetland (V.C. 112). Larvae were fairly common on the latter which usually did not grow in association with *Cochlearia officinalis*. East Neap is an area of coastal cliff.

On 19 April 2011 several larvae were found on *Cardamine hirsuta* on Ben Hope, West Sutherland (V.C. 108). Ben Hope is the most northerly Munro, just under 13 km from the coast and the larvae were at an elevation of about 379 m.

Moths resulted from all the larvae and a genitalia preparation was made from a female to confirm identification.

Like *Cochlearia officinalis*, *Arabidopsis petraea* and *Cardamine hirsuta* are in the Brassicaceae, but unlike *Cochlearia officinalis* neither has fleshy leaves. In the British Isles *Arabidopsis petraea* is known only from a number of areas in Scotland, from Snowdonia in Wales and at two localities in Ireland, and usually inland. *Cardamine hirsuta* is far more common and widely distributed in the British Isles, often as a weed of cultivation.

The larvae from all localities agreed with larvae that we have found in Devon on *Cochlearia officinalis*, and from which moths have resulted. All these larvae more or less agree with Richardson's two accounts. According to our observations, in the final instar the head is green or pale brown with numerous brown and black marks, but without the bristles on the head described by Richardson (1892); the prothoracic plate is green with several black marks; the body is green with concolorous pinacula each with a small black area surrounding the base of the single black seta arising therefrom; the anal plate is green with several brown or black marks (Fig. 1).

### Discussion

Because it is a common species it seems surprising that *Cardamine hirsuta* has not previously been noted as a foodplant; the same point cannot be made about *Arabidopsis petraea*, which is much less commonly encountered. What seems particularly unusual is the discovery of larvae inland and in two mountainous areas when hitherto the species has been considered to be coastal in the British Isles. Perhaps the fact that Fetlar is an island considerably to the north-east of Scotland and Ben Hope is the most northerly mountain in Scotland has some bearing, although this would not seem to apply to the record from Skye.

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### Unseasonal Common Quaker *Orthosia cerasi* Fabr. (Lep.: Noctuidae) in Middlesex (VC 21)

October 2011 was my third October running a moth trap at home and it returned first garden records of Sallow *Xanthia icteritia* (Hufn.), Chestnut *Conistra vaccinii* (L.), Green-brindled Crescent *Allophyes oxyacanthae* (L.), Barred Sallow *Xanthia aurago* (D.&S.) and Merveille du Jour *Dichonia aprilina* (L.). The trap comprises a Skinner-pattern box surmounted by two 30 watt actinic tubes and my back garden fence marks the border with Fryent Country Park.



I decided to run the trap on 30 October 2011, undeterred by it being the first day after the end of British Summer Time. In fact, I was encouraged by the mild weather. It was 15°C when I emptied the trap at 23.20 hours to find one Feathered Thorn *Colotois pennaria* (L.), three Red-green Carpets *Chloroclysta siterata* (Hufn.), one Green-brindled Crescent, one Light Brown Apple Moth *Epiphyas postvittana* (Walker) and a noctuid which seemed both familiar and strange.

My first instinct was to look at the autumn quakers. On drawing a blank I worked through the noctuids until I came to Common Quaker *Orthosia cerasi*. I was convinced, but knew it to be a spring species in the adult stage, having recorded it varying numbers every spring from 2009 to 2011. Waring and Townsend (2003. *Field Guide to the Moths of Great Britain and Ireland*) has 'small numbers sometimes emerging in mild spells during the late autumn and winter', but neither Plant (2003. *Larger Moths of the London Area*) nor Plant (2008. *The Moths of Hertfordshire*) show any autumn records. My identification was confirmed by Colin Plant who noted that it was a female. The mild weather continued and up to 1 November 2011 but no further examples were forthcoming.— DEBBIE PLEDGE, 29 Saltcroft Close, Wembley, Middlesex HA9 9JJ.

#### **An unseasonal record of *Orthosia cerasi* (Fabr.) Common Quaker (Lep.: Noctuidae) in Surrey (VC 17)**

A single *Orthosia cerasi* (Fabr.) Common Quaker was recorded at mv light on the night of 6.xi.2011 at Wimbledon Common in Surrey by A. Evans. I confirmed the record on photographic evidence; it was also confirmed by Graham A. Collins, the Surrey county macro-moth recorder. Graham has records of three other November adults from various parts of Surrey, 1953-1993.

The record follows another recent record of *O. cerasi* on 30.x.2011 at Wembley in Middlesex (VC 21) by D. Pledge – L. J. HILL, 48 East Lodge, East Lulworth, Wareham, Dorset BH20 5QL.

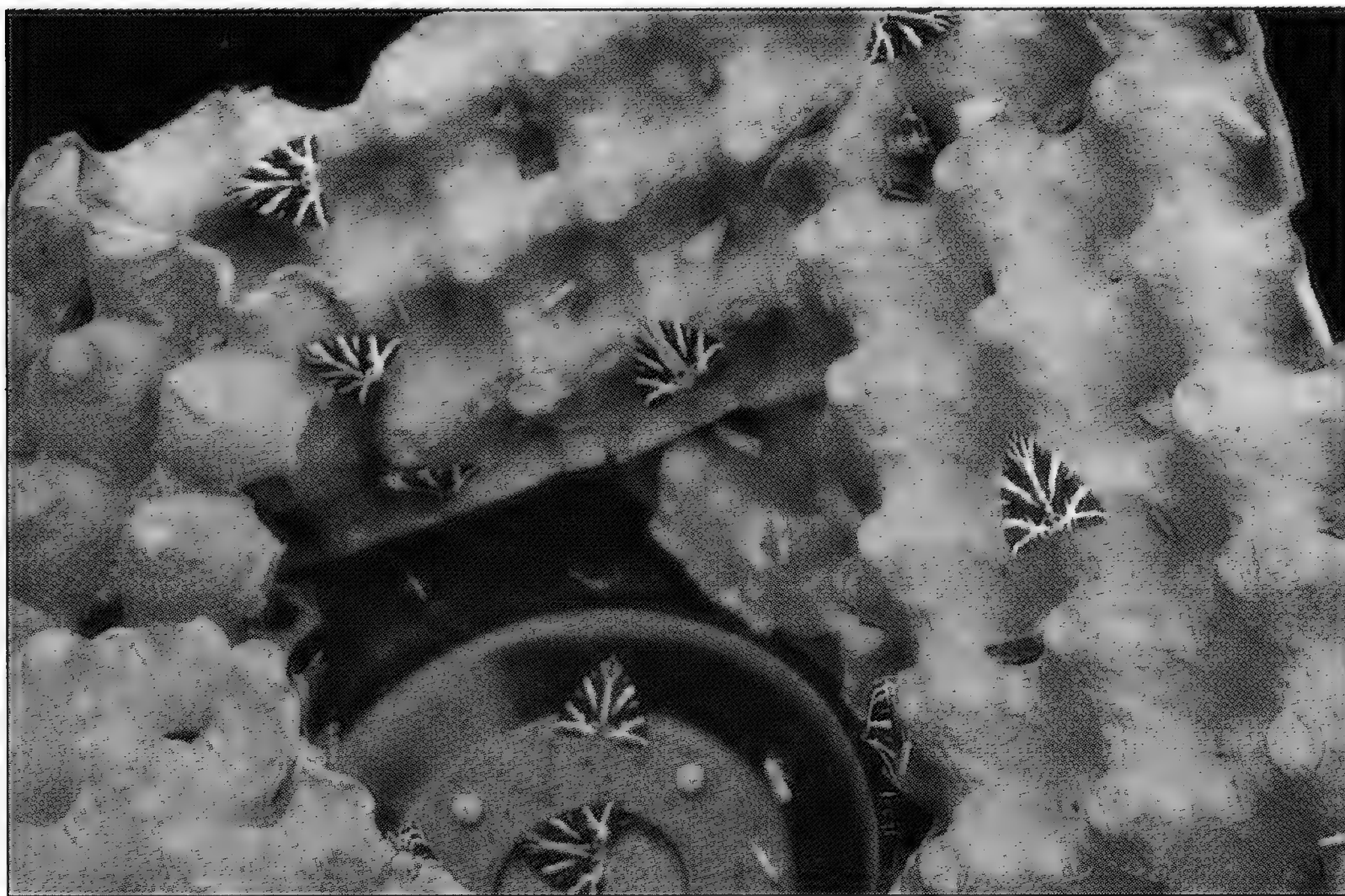
#### **Two unseasonal records of *Orthosia gothica* (L.) Hebrew Character (Lep.: Noctuidae) in Dorset (VC 9)**

A single *Orthosia gothica* (L.) Hebrew Character was recorded at mv light on the night of 29.x.2011 at Studland on the Isle of Purbeck by David C. G. Brown. To my surprise, having written to David to congratulate him on his record on 30.x.2011, I also took one at mv light in my garden at East Lulworth on 31.x.2011.

I informed David of my capture and he was amazed and delighted to hear of my specimen. In his personal communication to me he stated 'There must surely be quite a few more unnoticed between Studland and Lulworth. The mild October certainly has had an unusual affect on some species' – a sentiment that I fully agree with. — L. J. HILL, 48 East Lodge, East Lulworth, Wareham, Dorset BH20 5QL.

### The Jersey Tiger at light

Roger Hayward's note (*antea*, 240) prompts to send this picture of an average August morning trap-load of Jersey Tigers in my Guernsey garden. — TIM PEET, Le Chene, Forest, Guernsey, GY8 0BB.



### Welsh Wave *Venusia cambrica* Curtis (Lep.: Geometridae) larva found on Alder *Alnus glutinosa*

On 12 September 2010, on the Moray (VC 95) bank of the River Spey near Ballindalloch, I found a small geometrid larva on the underside of an Alder *Alnus glutinosa* leaf, resting along a vein beside fresh feeding damage. It was green with strong, white subdorsal lines. From its colour and build – slightly flattened dorso-ventrally, of uniform width, broad head, and noticeable bristles – together with the foodplant, I assumed it to be a plain form of Dingy Shell *Euchoeca nebulata*, a species known to be present along the Spey a bit further upstream.

Fortunately I took the larva home; within a few days it moulted and presented a very different appearance. Irregular deep crimson blotches appeared on the thoracic segments and on abdominal segments 2 – 5. The subdorsal lines were now pale yellow and less distinct. Clearly my original identification was mistaken – it could only be Welsh Wave *Venusia cambrica*.

Rowan *Sorbus aucuparia* is given as the usual foodplant of Welsh Wave in the British and European literature. Birch *Betula* is mentioned as an alternative by

Waring & Townsend (2003. *Field Guide to the Moths of Great Britain and Ireland*. British Wildlife Publishing) and is listed as accepted in captivity by Allen (1949. *Larval Foodplants*. Watkins & Doncaster, London). However, I have not been able to locate any reference to Alder being used.

Caterpillars are occasionally dislodged from their host tree and end up on another plant, but this does not appear to be such an instance. As soon as its identity became known I offered the larva Rowan, but it continued to prefer Alder, reaching full growth and pupating successfully. Photographs of its final instar can be seen on <http://www.ukleps.org>— ROY LEVERTON, Whitewells, Ordiquhill, Cornhill, Banffshire AB45 2HS.

### **A new UK food plant for *Ectoedemia subbimaculella* (Haw.) (Lep.: Nepticulidae)**

While searching for leaf mines at Ampthill Park, Bedfordshire (VC 30) on 28 October 2011, I caught sight of an unusual marking on a leaf of Sweet Chestnut *Castanea sativa*. On investigation this proved to be a tenanted mine of *Ectoedemia subbimaculella*. The leaf was also host to another smaller mine of this species, but both exhibited the familiar feature of the species, the slit on the underside for the extrusion of much of the frass generated by the larva. At least one other leaf on this tree had been colonised by *E. subbimaculella*.

*E. subbimaculella* is currently one of the commonest species to be found on Oak in the UK, mining from about the second week of October into November, often in 'green islands' of fallen leaves. It can be very abundant, often with several mines in the same leaf. Indeed our (Andy and Melissa Banthorpe and myself) investigations earlier that day in Maulden Wood, Bedfordshire (VC 30) revealed this typical abundance in some contrast to my 'home' vice-counties of West Kent (VC 16) and East Sussex (VC 14) in 2011 where most examples of *E. subbimaculella* thus far found have been single mines on each leaf.

The UK Leafminers website ([www.leafmines.co.uk](http://www.leafmines.co.uk)) did not indicate that Sweet Chestnut was a possible food plant for *E. subbimaculella* while the website of the leaf and stem mines of British flies and other insects ([www.ukflymines.co.uk](http://www.ukflymines.co.uk)) stated that the species was not yet found in the UK on *Castanea*. It is interesting that this latter site indicates that a much fuller range of species occur on the Continent on Sweet Chestnut, most of them typical oak species. Our UK range on *Castanea* is much more limited with all the miners noted being also oak species in the UK. This occurrence however, would suggest that it is well worth looking out for other typical 'oak' species on *Castanea sativa* in the UK in the future.

After posting a note on the Yahoo Groups site about this find, I received a communication from John Langmaid, who most kindly advised me that he had found the species on Sweet Chestnut at Euston, in Suffolk, during 2002. — KEITH PALMER, Farthing House, Needles Passage, The Mint, Rye, East Sussex TN31 7EN.



***Ectoedemia sericopeza* (Zell.) (Lep.: Nepticulidae): from obscurity to ubiquity?**

*Ectoedemia sericopeza* is one of three British Nepticulid micro-moths that are associated in their early stages with the keys of *Acer* species, the present species feeding specifically in its summer generation on the seeds of Norway Maple *Acer platanoides*. The history of the species in Britain is obscured by issues of identification and confusion with a sister species. *E. sericopeza* is a relative new comer to the official British list, being added in the mid-1970s on the basis of moths seen in Essex. There are earlier reports of the species, two of which are considered below, but these are thought to be misidentifications, probably of *Ectoedemia lousiella* (Sircom). Indeed Emmet stated in 1976 that 'there is no authentic record from any British locality' (Emmet A. M. 'Nepticulidae' in *Moths and Butterflies of Great Britain and Ireland*, volume 1, p. 207)

A representation of the species' distribution pattern before 2011 is given on the British Leafminers web site (<http://www.leafmines.co.uk/html/Lepidoptera/E.sericopezamapvc.htm>), based on records submitted to The National Leaf Mining scheme. The map suggests that the pattern was dominated by a block stretching north-east to south-west from Huntingdonshire and Bedfordshire to Hampshire. There were also outliers in South Lancashire and parts of south-west England. In the summer of 2011, however, there was a plethora of new records of *sericopeza* as summarised below. These probably indicate an expansion of the moth's range, although the issue of under recording and its impact on our understanding of the species' distribution cannot be ignored.

**North Somerset (VC 6)**

First record of mines: Arno's Grove (O. S. grid reference ST 6171) and St Anne's (ST 6271), both south Bristol, on 1 August; mines found subsequently in Bath city centre (ST 7464) on 11 August (RH). The reference to "first record of mines" here is pedantic, but correct, as this is an example of where there are published records for the period before 1975. Barnett et al (2003. *Moths of the Bristol Region*, p. 80) note some 19th century records from what is now the Bristol suburb of Brislington (VC 6), the area of the city which lies next to St Anne's. The confusion here is compounded by the statement by Barnett et al that 'there is a record apparently from South Gloucestershire on the British Leafminers website ([www.leafmines.co.uk](http://www.leafmines.co.uk))', but this is the same Brislington record plotted for the appropriate 10km square and therefore apparently in a new location

**North Wiltshire (VC 7)**

First record: I found single mined samarae in two locations in Swindon on 5 September: Radnor Street Cemetery (SU 1484) and Town Gardens (SU 1583). There were very large numbers of fallen samarae at both locations, but the proportion of those which were mined was low. This could reflect the relatively late date on which the search took place.

**East Gloucestershire (VC 33)**

First record: I found mined samarae in Cheltenham (SO 9424) on 30 June; mines were found subsequently in five adjacent map monads in July and early August. Also recorded by me at Tewkesbury (SO 8832) on 21 July; Cirencester (SP 0202) on 30 July and Gloucester (SO 8218) on 15 August.



**West Gloucestershire (VC 34)**

First record of mines: I recorded them at Clifton Downs, Bristol (ST 5673), 27 July; mines were found subsequently by me at Windmill Hill, Bristol (ST 5971) on 29 July. This is another instance of old records obscuring the picture, as Gaunt (2006. *Gloucestershire Moths: a second account*, privately published) notes two reports of *sericopeza* from Westonbirt in 1956 and Stroud in 1967.

**Monmouthshire (VC 35)**

First record: mined samarae were found by me in profusion in Newport (ST 3188, 3189 and 3187) on 19 August. At one inner city site, of 17 fallen keys selected without initial close examination, 12 were found to be mined and several bore orange cocoons.

**Worcestershire (VC 37)**

Third county record: mined samarae, Pershore (SO 9445 and 9545), 19 July. These follow the first county records from the city of Worcester in 2010. Mined keys were also found in Kidderminster (SO 8477) on 20 August.

**Warwickshire (VC 38)**

First county records: mined samarae, Birmingham, Lee Bank (SP 0685 and SP 0785), 22 August, with three vacated mines found at the first location and one at the second.

**Glamorganshire (VC 41)**

A flurry of first county records on 31 August with mined samarae found by David Slade (DS) in central Cardiff (ST 1876) and by myself in two other Cardiff map monads (ST 1776 and ST 1874). In ST 1874, a suburban area in the south of the city, a key was found with a cocoon attached as well as a vacated mine. DS also found tenanted and vacated mines and a cocoon on the northern edge of the city (ST 1782 and ST 1682) on 1 September. These records clearly show that *E. sericopeza* is a well-established and widespread species in Cardiff.

**Cheshire (VC 58)**

First county record: mined samarae, Hale (SJ 7787), 9 July. Coincidentally, on the same day as this record of mine, BS found a probable mine in a samara outside Sale Water Park Visitor Centre (SJ 8092). Unfortunately both the samara and mine were partially eaten and definite identification proved impossible.

**South Lancashire (VC 59)**

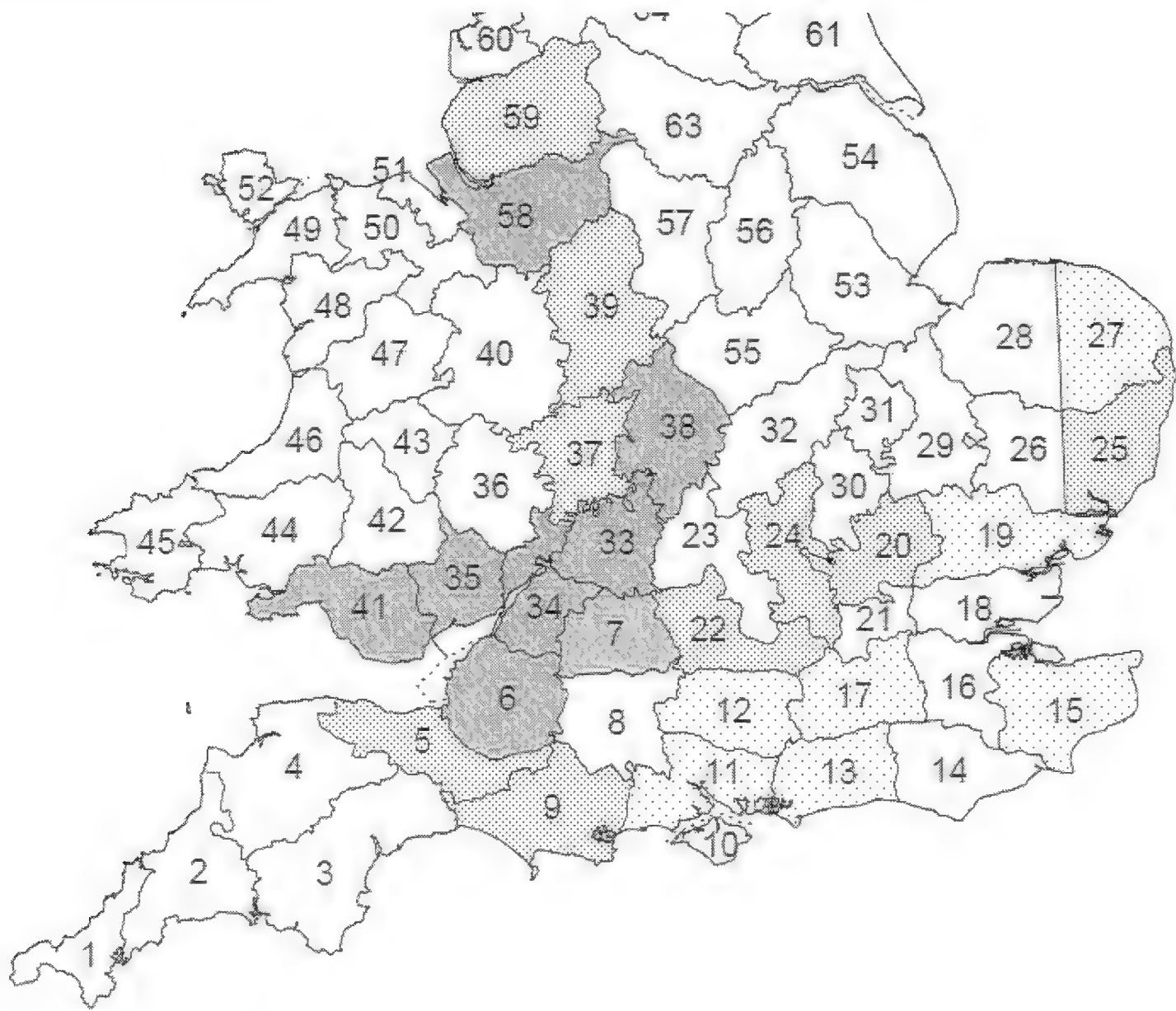
Encouraged by Kevin McCabe's success in rearing a single moth of this species from a selection of Norway Maple samaras found at Flixton (SJ 7493) in 2007 (the second VC59 record), BS tried to find it in subsequent years without success. Searches were concentrated on a site just north of the Mersey at Chorlton Ees, Manchester (SJ 8093) where Norway Maple is plentiful. However this year, on the same site, there was a virtual epidemic of *Ectoedemia sericopeza* with mines affecting at least 10% of the samarae. BS considers that the only miner he has seen in greater concentration is *Cameraria ohridella* (Deschka & Dimic). BS found the site's first *sericopeza* mine on 23 June 2011. An orange cocoon formed on the wing of a samara two days later, with the adult emerging on 5 July 2011. Further mines were found at same site on 28 June 2011 and 9 July 2011. A second adult emerged on 11 July 2011. McCabe also recorded the species at the Flixton site in 2011 with a mined samara noted on 31 May (McCabe pers. comm.)

It must be admitted that generally little effort in the field was involved on RH's part in recording the species, although the search through hundreds of keys in Swindon was a slow process. By contrast, the first record for VC 33 resulted from

a cursory glance at some fallen Norway Maple keys when returning home from buying a loaf of bread, while the Cheshire record arose from a casual family walk in Stamford Park in Hale. The mined samarae were easy to pick out due to the fairly prominent dark “eyebrow” which marks the track of the larva and given this distinctive and well-known characteristic, mined keys elsewhere would probably not be over-looked. However, the number of field-workers focussing on leaf mines, let alone seed mines, is small. While a lack of observer effort may have some bearing on how effectively the species has been recorded, given the considerable geographical range discussed here and the relative distance of some of the new sites from established locations, the evidence does tilt towards a significant expansion in the range of *sericopeza*. Fig 1 shows the location of the records reviewed here plotted at a vice-county scale. In addition, other vice-counties are shown shaded according to the year of the first VC record of *sericopeza*. The map suggests a range extension away from the area of the first British records in eastern England and towards the north and west. However, the observations from Manchester are the only direct evidence we have of the moth appearing in a location where assiduous searching in the past had failed to secure a record. The early, but questionable, dates for North Somerset and West Gloucestershire have not been included in the map.

In addition to throwing new light on the distribution pattern, the observations above also suggest that the period during which examples of mining larvae can be found is a long one and extends from late May, as shown in the Flixton example, through to mid-August, as one of the Bath keys still contained a caterpillar and a cocoon appeared on one of the Kidderminster keys on 23 August. Similarly, there is evidence of an extended period of emergence of the adult moths ranging from 5 July to 3 September. Cocoons spun on the keys varied in colour from orange in the case of the Manchester, Newport and Cardiff specimens to white for the one Kidderminster example. Reference has also been made to the dark “eyebrow” across the wing of the key. However, examples of keys where the egg was laid directly on the seed were also found. Many of the Nepticulidae have a specific target position for egg-laying and given that the nutrient rich seed is the focus of the *sericopeza* caterpillar's feeding, it is worth considering whether egg-laying on the wing or the seed is the norm.

Norway Maple, together with the native Field Maple *Acer campestre*, is widely planted in amenity areas, public parks and roadside landscaping as the tree is regarded as tolerant of a range of soil conditions and of air pollution. All of the *sericopeza* records outlined above are associated with such locations, including major urban routeways such as Bristol Road on the edge Birmingham city centre and Old Green Interchange in central Newport, suggesting that the moth also is tolerant of pollution and wind-buffeting. While the ready availability of the food plant has certainly given the species a much firmer footing on the British list, that factor alone cannot explain the change in the moth's distribution pattern. *Stigmella*



**Figure 1.** Year of the first record of *E sericopeza* by vice-county (England and Wales). White = no records; low density dots pre-2000; high density dots = 2001 to 2010; solid grey = 2011.

*aceris* (Frey) is another maple feeding nepticulid that has undergone an expansion of its range, although in this case the pattern has shown small scale annual outward movements in the Severn valley. Thus, from the location of the first Gloucestershire record in 1991, the maximum distance to the most far-flung 2010 record was a mere 28 kilometres (Homan, R., 2011. *Stigmella aceris*: the moth that just grow'd like Topsy. *Gloucestershire Naturalist*). In comparison, *sericopeza* seems to have crossed the country in leaps and bounds; a comparison with *C. ohridella* seems apt.

We are very grateful for the help from John Bebbington, Roger Gaunt, Steve Hind, Steve Palmer, Tony Simpson and Nigel Stone in placing the records reviewed here in context and to Kevin McCabe and David Slade for making their records available for discussion. The dates of the records for the vice-county map were taken from the relevant county moth group web sites with additional and much appreciated help from Barry Dickerson and John Langmaid. The base map is taken from <http://www.brc.ac.uk/downloads/GBvc.pdf>. — ROBERT HOMAN, The Apiary, Swindon Lane, Cheltenham, Gloucestershire GL50 4PD & BEN SMART, 28 Redland Crescent, Chorlton, Manchester M218DL.

### ***Diploseustis perieresalis* (Walker) (Lep.: Pyralidae) – two records in Bedfordshire**

This species was first recorded in Great Britain at Tresco, Isles of Scilly, in October 2001. The second British record was at Exeter, Devon, in November 2007. The Microlepidoptera Review in this Journal (*Ent. Rec.* 121: 285) notes two further records in 2008 at Bishops Stortford (VC 20), and Billinge (VC 59).

Lionel Burgess has operated an actinic light trap and black light tube for the last two years in his garden at Biggleswade, Bedfordshire (O.S. grid reference TL 1944). On 3 August 2011, one specimen of *Diploseustis perieresalis* was found on a wall adjacent to the light trap. The specimen was photographed, and the identification confirmed by me and by John Langmaid. On 15 September 2011, a second specimen of this species was found in the same location. — DAVID MANNING, 27 Glebe Rise, Sharnbrook, Bedford MK44 1JB.

### **Notable Tortricidae recorded in West Norfolk – Spring 2011**

In the spring of 2011, six notable tortrix moths were recorded in West Norfolk (VC 28) and one in East Norfolk (VC 27). These represent three County firsts and four post Victorian firsts for Norfolk. I was lucky enough to record two of the specimens myself and the details of these plus the other records, passed on to me as Norfolk County Moth Recorder, are as follows:

#### **Tortricidae**

##### 1061 *Acleris literana* (L.)

One specimen was collected at MV light in a rural garden on the edge of Dersingham village, VC 28 (O.S. grid reference TF 6929) on 2.iv.2011. This is the first record of this highly distinctive species for West Norfolk since 1899 when it was noted as 'scarce' (*Trans. Norwich & Norfolk Nat. Soc.* Vol. 6, 1899-00). The only other modern record for Norfolk is at Gillingham Thicks (VC 27) near the Suffolk border (Norfolk Lepidoptera Archive – J.R. Wheeler). *A. literana* is a local species of oak woods and wooded areas and is apparently seldom seen in the spring after hibernation (Bradley, Tremewan, Smith, 1973. *British Tortricoid Moths*).

##### 1123 *Ancylis laetana* (Fabr.)

Two specimens were taken at MV light at East Winch Common on 3.vi.2011 by J. Clifton, J. Wheeler, G. Follows and J. Wells – new to VC 28. Both were caught in the woodland edge along the periphery to the heathland. The only other Norfolk record is from VC 27 where W. G. Whittingham took three specimens at Horning in 1907; these are now housed in the collections at Norwich Castle Museum.

##### 1225 *Pammene obscurana* (Stephens)

A female that was probably of this species was collected in my garden around 21.iv.2011, but was unfortunately lost. Luckily a second male individual was caught at MV light in the same Dersingham garden VC 28 (TF 6830) on 23.iv.2011 (confirmed by J. Clifton). These represent the first records for Norfolk since three records by C. G. Barrett and E A. Atmore in 1899 and 1914 at King's Lynn – noted as 'annually among



birch trees at Lynn' and 'on heath near Lynn' in *Trans. Norwich & Norfolk Nat. Soc.* Vol. 6, 1899-00; Vol. 9, 1913-14).

1226 *Pammene agnotana* (Rebel)

One male specimen was collected at MV light amongst old Hawthorn bushes by myself and Dick Jones at East Walton Common, (VC 28, TF 7316) on 22.iv.2011 (determined by J. Clifton). This represents the first record for Norfolk. The only British record for many years was of a male taken in Surrey on 15.iv.1961 (Bradley et al, *op. cit.*). It has since been recorded in just six Vice-counties: Dorset VC 9, West Kent VC 16, Surrey VC 17, Middlesex VC 21, Cambridgeshire VC 29 and Northamptonshire VC 32 (J. R. Langmaid, pers.comm).

1227 *Pammene giganteana* (Peyer)

One adult specimen was caught at MV light on 1.iv.2011 in my garden in Snettisham VC 28 (TF 685344) and determined by J. Clifton. There are several large mature oaks *Quercus* in the near vicinity; the larvae of this moth are associated with oak apple galls *Biorhiza pallida* (Olivier). This is the first record for Norfolk since 1899, the last being from Merton (TL 99) in 1884, at Bawsey (TF 61) and two in 1874 at North Wooton (TF 62) and Cawston (TG 12) (see *Trans. Norwich & Norfolk Nat. Soc.* Vol. 1, 1873-74; Vol. 3, 1883-84; Vol. 6, 1899-00).

1229 *Pammene albuginana* (Guen.)

An adult male was taken in Cawston, (VC 27) at a pheromone lure designed for *Grapholita funebrana* (Tr.) on 24.v.2011. The lure was set amongst plum *Prunus domesticus* trees, but apple *Malus* trees were also present in the garden. The nearest oaks are at least 200 metres away. This is the first record for Norfolk. It is not unusual to find other species of the same genus coming to synthetic pheromone lures, especially those of the subfamily Olethreutinae; other observers should be aware of this.

1256 *Cydia servillana* (Dup.)

One male specimen of this distinctive species was collected at MV light at Dersingham (VC 28), on 10.v.2011. This is the first record for Norfolk. It is a local and scarce species, recorded only from southern England (including neighbouring counties of Suffolk and Cambridgeshire) and south-east Wales, with an isolated record from Yorkshire (Clifton, J. & Wheeler, J., 2011. *Bird-dropping Tortrix Moths of the British Isles*). It favours damp woodland margins and hedgerows which supports its food plants Goat Willow *Salix caprea* and Grey Willow *S. cinerea* (Bradley et al, *op. cit.*).

I am grateful to the various captors of moths, all of whom are mentioned above, for allowing me to use their records in this summary. — JIM WHEELER, Iveygreen, Upwell, Norfolk PE14 9AD (Email: jim@norfolkmoths.org.uk).

**Some notes on the “hauderi” form of *Caloptilia semifascia* (Haw.) in north-west Kent (Lep.: Gracillariidae)**

The recent note by Colin Plant (*antea*: 159-160) on the occurrence of this interesting form of *Caloptilia semifascia* (Haworth) in the London area prompts me to place on record my own experiences with this species. On 25 July 2006 I netted what I thought was an odd form of *Caloptilia azaleella* (Brants) at dusk in my garden in Orpington, north-west Kent. After comparing the moth with specimens in my own collection, it quickly became clear that the moth was not

*azaleella*, and after looking at plates in Heath & Emmet, 1985, (*Moths and Butterflies of Great Britain and Ireland* Vol. 2), I tentatively identified the moth as *Calybites hauderi* (Rebel). A quick search of the literature suggested the UK distribution was restricted to the Isle of Wight, Hampshire and West Sussex. It was one of those moments when all confidence in one's identification evaporates! The specimen was put to one side for further study, but in the comings and goings of professional life, quickly forgotten.

A further example of this moth appeared at MV light in the garden on 14 July 2007, with small numbers also appearing in 2008 and 2009. The earliest date was 14 June 2008 and the latest 20 July 2009. A conversation with Dr John Langmaid in 2009, and an early sight of his paper which subsequently appeared in 2011 (Langmaid, Sattler & Lopez-Vaamonde (2011) *Nota Lepidopterologica* 33(2):191-197) provided the suggestion that the moth might be a first brood specimen of either *Caloptilia semifascia* or *Caloptilia falconipennella* (Hubn.) f. *oneratella* (Zell.). As I have not recorded *falconipennella* locally, *semifascia* seemed a prime candidate.

*Caloptilia semifascia* is not uncommon in north-west Kent, and has the distinct advantage of occasionally occurring in large colonies. In June 2010 I visited the site of a local colony which occurs on Field Maple *Acer campestre*. There are about six medium sized Field Maples growing in the deep shade of a small wood and a further three at the edge of the wood. I was very surprised to find large numbers of rolled leaves each containing a larva. Whilst not recording the precise detail, around 60% of the leaves on each tree in the shade were rolled, with comparatively few rolled leaves on the trees at the edge of the wood. My recollection is that there were both cylindrical rolls and conical rolls in about equal proportion. I collected about 100 rolled leaves and, during July, some 80 moths emerged, all being the brightly marked "*hauderi*" form of *C. semifascia*. There were no parasites observed. The majority of the moths were released back in the original locality. I visited the colony again in August 2010 and collected a further 50 newly rolled leaves. These all duly emerged in September 2010 and were what I would consider typical *semifascia*, although the wing markings varied from very dark to those with a distinct yellowish tinge.

I visited the colony in June 2011, and once again found large numbers of rolled leaves, although I did not attempt to breed them out. At the same time I also searched a number of other local areas where I have found rolled leaves on Field Maple in the summer, but to my surprise I could find no trace of larvae. These localities were typical hedgerow and woodland edge habitats. Re-visiting these localities in August 2011, I was able to collect a small number of leaf rolls, which all produced typical *semifascia*.

Interpretation of such a limited amount of data is not straightforward! In the garden I have found both typical and "*hauderi*" forms of *semifascia* in the first half of the year. Although numbers are small, between 2006 and 2011 there has been an overlap in dates between the latest typical, and earliest "*hauderi*" forms. Local breeding data, admittedly from a single colony, suggest that only "*hauderi*"

appears as a newly emerged insect in the early summer and therefore the typical forms caught at around the same time would be overwintering insects from the second generation. This must be a tentative conclusion as the total number of moths caught in the first half of the year has been very small.

The second dilemma is that whilst the local woodland colony of *semifascia* is undoubtedly bivoltine, I have not been able to find any first brood larvae in the smaller, more exposed hedgerow colonies. Of course, it may be that the first brood occurs at a very low density in these other localities and I have simply failed to find the larvae. Alternatively, it may be that the species is only partially bivoltine in north-west Kent and we are in the process of witnessing a transition between univoltine and bivoltine states. Lepidopterists have long observed that under favourable conditions some species will produce an unusual second or third brood, but it is certainly a novel experience to describe a species producing an atypical first brood, particularly when the appearance of moths from that brood is so distinctive. Clearly, more observations on the behaviour of this species are needed to establish the true nature and extent of its voltinism. — PAUL SOKOLOFF, 4 Steep Close, Green Street Green, Orpington, Kent BR6 6DS (E-mail: hetbug@gmail.com).

#### ***Oegoconia quadripuncta* (Haworth) (Lep.: Autostichidae) new to the Denbighshire (VC 50) county list**

On the night of 22-23 July 2010 a single male *Oegoconia quadripuncta* was caught in the Rothamsted Insect Survey light-trap at the Welsh Mountain Zoo in Colwyn Bay, Denbighshire (site 652: O. S. grid reference SH 836789). This was followed a week later by a female on the night of 29-30 July. These represent the first two records of this species for the county.

*Oegoconia quadripuncta* is widespread in southern England and Wales, with populations extending as far north as Cumbria and it is resident at scattered locations in east and west Ireland (Emmet & Langmaid, 2002. *The Moths & Butterflies of Great Britain & Ireland* 4(1). Harley). Given that the larva feeds upon decaying vegetable matter, it is surprising that this species has not been noted from even more of the country and this is likely simply to be due to under recording, perhaps exacerbated by the difficulty in separating it from related species. Two other species, *O. caradjai* and *O. deauratella*, are very similar in appearance and the group can only be separated reliably by their genitalia.

Many thanks to Bob Palmer who identified these specimens and who continues to do a great job identifying the catches from this and other Rothamsted sites. Thanks also to Suzanne Coleman at the Welsh Mountain Zoo for operating the trap. — PHILIP J. L. GOULD, Co-ordinator of the Rothamsted Insect Survey Light-trap Network, Plant & Invertebrate Ecology Department, Rothamsted Research, Harpenden, Hertfordshire AL5 2JQ (E-mail: phil.gould@rothamsted.ac.uk).

### Encounters with GeoCaching

On 9 June 2011, I visited Ipsden Wood, near Stoke Row in the Oxfordshire Chiltern Hills, (O. S. grid reference SU 677830). As I swept my way along the bridleway running through the centre of the wood, I noticed two people wandering amongst the trees, with their gaze fixed to the ground, turning over logs. It is quite normal to encounter members of the public in these busy hills, frequently dog walkers and occasionally horse riders, but they are usually on their way through and seldom linger. The exciting thought therefore came to me that I might be in the company of fellow naturalists, and I cast a warm greeting in their direction. This received only a muted response, but I persisted and entered into a rather one-sided conversation, where most of the discourse was on what I was doing in the wood, rather than on what they were doing. However, having thereby established myself as a harmless eccentric, the couple warmed to me somewhat and I obtained fuller details of their activities. One of the pair was operating a hand-held GPS device, and by this means they were trying to find what they referred to as a 'cache'. This was a small box that had been hidden, and its details published on a web-site for others to try to find; an activity referred to as "geocaching". We agreed that their interest, like mine, was a great way to enjoy the countryside... and somewhat less tiring than orienteering. We met again a little while later, as they were returning to their car. Alas, they had failed to find their quarry, and were now going on to their next site, as was I. It occurred to me that it was possible, although extremely unlikely, that an entomologist might turn up a cache in their searches, and be unaware of what they had found.

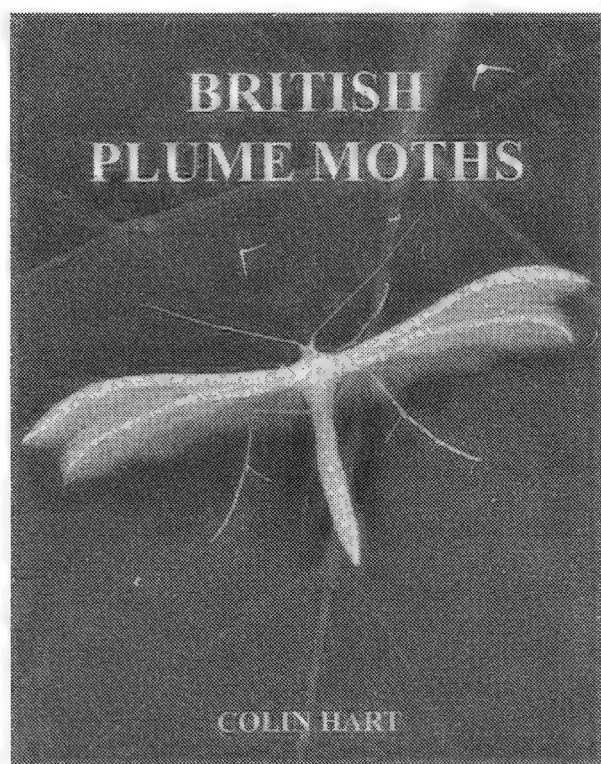
Six weeks later, on 21 July, I was exploring the opposite end of Oxfordshire, near Hook Norton (which is always a good excuse to visit the brewery there for a minipin of ale), and chose to investigate the embankment of a disused railway line (SP 356313). There, wedged between the boughs of a mature hawthorn (*Crataegus* sp.), I found a small plastic box. Within, a log book revealed the activity of geocachers. Remembering the etiquette that had been explained to me the previous month, I endorsed the log book and considered whether I wanted to exchange an item of "treasure" within the cache. Given that said items consisted of a small animal-shaped pencil eraser and a miniature figurine of what looked like a garden gnome, I decided that I would not deplete the store, but added to it a specimen of *Deraeocoris ruber* (L.) (Hem.: Miridae), and returned the box to its hiding place. A few days later, I checked out the cache on the geocaching web-site (<http://coord.info/GC26K9C>) and was delighted to find that my presence had been logged by a subsequent visitor, although my generous addition to the treasure had not been noted.

It was clear from the geocaching website (<http://www.geocaching.com>) that this is a thriving pastime, and I am embarrassed to admit being ignorant of it. Have any other entomologists stumbled across this phenomenon, caches or geocachers?— ROB RYAN, 38 St John Street, Oxford, OX1 2LH (E-mail: [notnowcato@ymail.com](mailto:notnowcato@ymail.com)).



## BOOK REVIEW

**British Plume Moths** by Colin Hart. 278 pp., including 46 pages of colour plates and 27 pages of genitalia drawings. 179 x 245 mm, hardbound, ISBN: 978 1 899935 0602. Published by British Entomological & Natural History Society, 2011. £24 (£16 for BENHS members), plus £3.87 UK postage and packaging, from the publishers at Dinton Pastures C. P, Reading, RG10 0TH.



The British “plume” moths were last presented in book form in Bryan Beirne’s 1952 classic *British Pyralid and Plume Moths* – now long out of print. Now, Colin Hart’s long-awaited and very much needed work is finally with us. After a few introductory pages the “meat” of the work commences with an updated checklist of species. There are several changes since the *Checklist of Lepidoptera Recorded from the British Isles* that was created for us by John Bradley in 2000, bringing us into line with the rest of the world at last. Details are not necessary here, except to say that all three species recently added to the British list (*Agdistis tamaricis* (Zeller), *Stenoptilia annadactyla* Sutter and *Emmelina argoteles* (Meyrick)) are included.

The checklist is followed by identification keys, the correct use of which is briefly explained. This is a very welcome section and involves the use of simple choices between easy-to-see characters rather than the un-necessarily comparative characters deployed by some authors. I have tested the keys on one example of each of fifteen randomly selected species from my cabinet and was relieved that I appear to have labelled them correctly!

I do urge people **not** to skip straight to the pictures, but then these *are* rather splendid. Each full page depicts three species, reproducing the same image both at life size and enlarged four times, so rather cleverly avoiding the inevitable clash of preferences. The pins have been removed digitally and some minor damage has also been digitally repaired (e.g., replacing lost legs) so that the overall result is pleasing to the eye and therefore more easily fulfills its role of facilitating correct identification. Purists may question this digital re-mastering. The author is at pains to point out that repairs are done by copying parts from the same individual so that there is no possibility that any image could contain the parts of more than one species. Personally I find this entirely acceptable in an identification guide and certainly no worse than the works of artistic/scientific fiction that adorned an early volume of *Moths and Butterflies of Great Britain and Ireland* or the many near-identical colour spots that pass for *Stigmella* species in another.

A second set of colour plates shows adult moths in life as well as living larvae and these, along with the concise, well-written species accounts, that include life history details, serve as a reminder to us all that there is more to entomology than simply collecting all the adults. Many areas of deficiency of knowledge are apparent and the real entomologists amongst us will hopefully see this as a challenge.

The excellent genitalia drawings of both sexes are new and have not been copied from existing works. They are far more detailed than the relatively simplistic ones in Gielis (1996. *Microlepidoptera of Europe: Pterophoridae*. Apollo) and are likely to prove invaluable.

There are a few niggles. All species have been allocated an English name – which may please some, I suppose. The alphabetic list (by English name) of food plants give all the moth species (by scientific name) on a particular plant, but there is scope for confusion: “Common Reed” is indexed, for example, whilst “Reed” is not. It is a short list, granted, but so short that scientific names could easily have been admixed. My only real criticism is of the complete lack of distribution maps – at any scale; I feel sure that some level of information would have been useful, if only to encourage those people who live in “plume deserts”.

*British Plume Moths* is a work that no serious British Isles lepidopterist can possibly afford to be without – even those who already use “*Gielis*”. Happily it is also affordable; Santa’s sack is going to bed rather heavy this coming festive season.

Colin W. Plant

## CORRIGENDA

The following important corrections to pages in the current volume have been communicated to the Editor.

Page 240: In the caption to Plate 28, the new aberration of *Callophrys rubi* (L.) is given incorrectly as “*dennisii*”. The aberration is named in honour of Chris and Pat Dennis and should, therefore, take the plural form “*dennisorum*”. The *first mention* of the name is in the title to the Note on page 239 and takes this correct form; it is, therefore, the valid name for the aberration.

Page 243: In the Paper by Melissa Banthorpe, a late submission of extra text was omitted. The entry for *Euplagia quadripunctaria* should be completely replaced with the following text:

2067 *Euplagia quadripunctaria* (Poda) Jersey Tiger. 8.viii.2009 Biggleswade (K., P. & R. Sims) and 5.viii.2011. It was believed at the time that the 2009 individual could have been released from breeding stock, but the timing fits with the usual dates of extra-limital records from the south London population; there were records in Hertfordshire, Middlesex and Essex about the same time. The occurrence of another specimen, again in early August, gives credence to the latter explanation.

Page 244: In the same Paper, the entry for *Cryphia algae* should be replaced with the following text:

2292 *Cryphia algae* ([Fabr.]) Tree-lichen Beauty. 11.viii.2007 Barton Hills NR (A. M. & M. G. Banthorpe) and 30.viii.2011 Upper Caldecote (M. Burgess) are the only two records for VC30. It is surprising that there have been no other records in the intervening years.

# CALL FOR PAPERS AND NOTES

We welcome material for publication from both amateurs and professionals. First-time authors are welcome to contact the Editor for advice if they wish; his contact details inside the front cover. It is not necessary to be a subscriber to submit a paper (though we may try to persuade you).

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We welcome colour illustrations, but these will only be used if the editor deems them necessary for the understanding or enjoyment of the text. We regard habitat images as important as pictures of the insects, as long as they illustrate something useful. We do not charge for publication, but as with all peer-reviewed journals we require exclusivity and all submitted material, without exception, should not be offered to, or be under consideration by, any other publication at the same. Authors of accepted papers will receive proofs for checking (usually as a pdf via e-mail) a couple of weeks before publication.

Because we publish six times a year we can usually offer rapid publication. Shorter *Notes* are vetted by the Editor. Full *papers* are peer-reviewed by at least one referee, sometimes two, and may be returned to authors for changes to be made before final acceptance. In general, however, we try to get things into print rapidly. We prefer submissions to be made by e-mail if possible (see inside front cover or visit the web site). Typed tables may be pasted into the word processor file. However, please do not embed (insert) files from other programs as this compromises quality and may make editing impossible. All photographs and other images, all charts and any graphs should be sent as separate files. Please set text outside the frames – if it absolutely must be inside the frame please use Times New Roman 9-point font. The Editor can scan and return originals if asked. All contributions must bear the name and address of the author and, if you wish, an e-mail address. Please follow the format in this issue.

We no longer issue paper reprints unless asked. Authors of papers will be e-mailed a pdf of their work and they may print as many copies as they wish. To reduce costs we will only send a pdf of Notes if requested to do so. All material must be sent to the Editor. We welcome books for review, but unsolicited book reviews will not usually be accepted.

We are also looking for new moth image for the 2011 front cover. It will appear in the same format as the cover for 2010. If you have an image suitable for this please email the editor.





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